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E. S. GAILLARD, M. D.,

EDITOR AND PROPRIETOR.

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NORRIS, Dr. GEO. WM.
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ART. I.—THE PATHOLOGY AND TREATMENT OF MALARIAL DISEASES.

By D. W. BRODNAX, M. D., Cameron, Texas.

In 1845 there prevailed in Virginia, where I was then living, a very remarkable epidemic, of which the following case, selected from others in my case-book, as being the first I saw, will give an idea of the character. It (the epidemic) was remarkable in that it first appeared in the Piedmont region of Virginia (which the inhabitants of the tide-water region were in the habit of visiting annually for health), and rolled down eastward like a wave, till it finally disappeared on the coast, on the approach of frost. It was remarkable, too, in that it attacked almost every member of any family in which it broke out, and was almost invariably fatal. So great a panic did it produce, that people fled before it in dismay, neighbors refusing to visit the sick, and in many instances, families deserting the first member that was stricken, leaving him without assistance to his fate. Living in the tide-water region, I anxiously watched its approach, and endeavored by correspondence with physicians who had met it, and by reading everything I could see on the subject in the public prints, that were full of it,

to prepare myself for the conflict. No treatment seemed to have any effect, and to be stricken was to die. At length on the 27th of September I was called to my first case.

Aggy, colored, aged seventeen, had been seized with a chill several days before, which had been followed by reäction, which had continued, with occasional remissions, ever since; no periodicity of remission had been observed, and no chill except that which had ushered in the attack. Her mother and several others having been taken in the same way sometime previous, and having been treated by an old physician who had the entire confidence of her owner, he attempted the treatment of this case himself, although it had been unsuccessful, believing that "if anything could, it would save her." He had given her repeated doses of calomel and castor oil, and whenever he deemed the pulse low enough, had given quinine in one-grain doses till five or six grains had been taken. Her condition becoming very alarming, I was called in, and found her lying supine, her eyes open, pupils dilated, look vacant, anxious and staring, inattentive to surrounding objects, hard to be aroused so as to understand questions, when she would answer in a loud, harsh voice, tolerably coherently, and request to have her ears opened. Her skin was hot and dry; her tongue dry, pointed and covered with a black coat; sordes on teeth, gums and lips; abdomen tympanitic and tender on pressure; intense thirst; loathing of food; involuntary passing of urine and fæces; pulse 140, small and jerking; sloughing over the sacrum. When sufficiently aroused would complain of pain in abdomen, and deafness. Auscultation and percussion revealed the physical signs of pneumonia.

℞.—Quinæ Sulph. gr. xl.;
Morphiæ Sulph. gr. ss.

M. In chart. 4. div. one to be given every two hours. Chicken tea.

September 28th.—Five o'clock P. M. had rested tolerably well; slight moisture of skin; tongue moist; pulse 120. Urine

still passed in bed; no stools; still quite deaf, and complains of pain in abdomen.

℞.—Mass. Hydr. gr. iv.;
Morphiæ Sulph. gr. ½;
Stat. Sum.

September 29th.—Skin hot and dry; tongue dry and brown; pulse 130, small and jerking. ℞.—Quin. Sulph. gr. xl.; morph. sulph. gr. ss. in chart. 4 div. 1 every two hours; mucilage of gum arabic ad libitum; emollient poultices to sacrum, and position changed to side. Four o'clock P. M., position lateral; skin moist; tongue moist but still brown; pulse 120; tenderness of abdomen less; still deaf. ℞.—Mass. hydr. gr. iv.; morph. sulph. gr. ½ stat sum.

September 30th.—Position supine, sloughing having commenced over the trochanter major; skin dry, but cooler; tongue dry and glazed; in other respects the same. ℞.—Quin. sulph. gr. xxiv.; morph. sulph. gr. ½ in chart. 4 div., one every two hours; chicken tea. Five o'clock P. M., position lateral; skin moist; tongue moist and beginning to clean; pulse 100; urine passed into vessels; no stools; tenderness of abdomen much less; had rested well, and improved in every respect, except the sloughs, which were progressing. Astringent poultices to sloughs; chicken tea; no medicine.

October 1st.—Rested well last night; some alvine evacuation passed into vessel; less deaf; pupils natural; tongue cleaning; pulse 90. Sloughs had all separated, leaving a deep pit over the left sacro-iliac junction, and one over the left trochanter major; no tenderness of abdomen; appetite good.

From this time she gradually improved, the only delay in her convalescence being occasioned by the irritation of the ulcers, requiring the occasional exhibition of morphine to produce rest. Her catamenial period having occurred during this attack, suffered no interruption. In other cases that I saw there was profuse perspiration throughout, sometimes saturating the bed and dripping on the floor, the skin feeling as cold as marble, whilst the patient complained of intense inward heat,

and insatiable thirst. Some would commence with coma, from which it was difficult to obtain reäction; in some the intellect would be unclouded throughout; in some the lungs were completely engorged, in the lower lobes, with all the physical signs of pneumonia in the other lobes; in others the spleen and liver were engorged and enlarged; and in others the stomach and bowels were the principal sufferers, from which, in some cases, blood was discharged in copious quantities. The matter ejected from the stomach in some cases answered exactly the description of black vomit. In some cases there was copious hæmaturia. In all, the treatment was the same, except that in hæmorrhagic cases, I used astringents internally administered, sugar of lead and opium generally, and I lost but one case, that of a negress seventy years old, to whom but little attention was given by the nurses. In the families under my charge, however large, but one or two cases would occur, those taken with the premonitory symptoms during my attendance on the first being aborted by the prompt and liberal exhibition of quinine. This will, at this day, doubtless be recognized as a frequent type of fever in malarious districts, and the treatment will not, perhaps, at the present time be considered remarkable, although then I had no authority for it, and it was several years before I saw any advocate for such use of quinine. A majority of the physicians whom I have met in Texas to this day will not venture to give quinine till the "fever is broke," and it frequently happens that the life or constitution of the patient is previously broken. (Especially is this so in those cases called "pneumonia," and those of a hæmorrhagic tendency.) I claim priority in its application, and asserted my claim at the time in an article substantially the same as this, offered to the "American Journal of Medical Sciences" for publication, but it was declined on the ground of absurdity. I feel that great injustice was done me by that journal.

The theory on which I founded this practice, which I now, still more than then, believe to be the true pathology of malarial diseases, is the point of interest, if any it has, of this com-

munication. If this theory has yet been promulgated by any authority, it has not met my eye.*

The sympathetic or organic nervous system is that which directs and controls the functions of all the organs, and the nutrition of the system, regulating the secretions, and associating the organs in harmonious action. If this system of nerves be disturbed in its action, either too much excited or too much depressed, the organs will be incapable of performing their functions, and the nutrition of the system at large will be impaired. The secreting organs will produce either too much or too little of their proper secretions; the heart will act either too strongly or too feebly, and the brain be either too much engorged with blood or anæmic. Malaria (whatever that is) produces its first impression on this nervous system, and whether this impression be exciting or debilitating, matters not, for the ultimate effects will be the same. It may be the one or the other according to the quantity of malaria imbibed. If the quantity be sufficient, the first effect will be such a prostration of the heart that the blood will be accumulated in the venæ cavæ, the liver, the spleen and lungs, and there may be coma from an anæmic condition of the brain. If then such means be used as will arouse the energy of the nerves, and restore the action of the heart, such as sinapisms to the spine, the epigastrium, the wrists, hot pediluvia, with internal stimulants as soon as the patient can swallow, the circulation will be renewed, the coma relieved, and

* Since writing the above, I have seen several articles in various medical journals, of which I particularly remember one by Dr. T. C. Osborn, of Greensborough, Ala., published in the "New Orleans Medical Journal," October 1870, advocating precisely my doctrine, and I feel proud to be sustained by such distinguished authority. I have also seen Niemeyer's work on Practice, edition 1869, advocating substantially the same views, and, by the way, in his preface to that edition apologizing for not having issued a new edition for seven years, he says that nothing has been lost to mankind, for "within that period," to wit, the period from 1862 to 1869, more improvement has been made in the treatment of grave diseases, amongst which he enumerates pneumonia, than for fifty years before. (I quote from memory, but substantially). By reference to his treatment of pneumonia, it will be seen that it closely approximates mine.

the organs will resume their functions. But this renewed activity of the nerves will not stop at its normal degree of intensity, but will go on increasing in excitement until its irritability is exhausted, and there will be another collapse with the same train of symptoms that characterized the first. If the quantity of malaria imbibed be not sufficient to produce the overwhelming effect, the first symptom of attack will be headache, nausea, aching of joints, increased frequency of pulse, and general malaise, till these culminate in exhausted irritability and collapse, characterizing the cold stage of intermittent fever, when reäction from this collapse takes place, either by effort of nature or artificial means, it will go on increasing in intensity till again embarrassed, when collapse will again occur. The length of time required to exhaust irritability will be according to the impression made by the disturbing cause, malaria, or the temperament or peculiar nervous character of the patient, forming the various types of disease known as quotidian, tertian, etc.

The cerebro-spinal system of nerves, by reason of its remote connection with the sympathetic, and the slow transmission through the multiplicity of the latter's ganglia of any impression made on it, may not be involved with it, and may not be cognizant of the disturbance; and there may be entire exemption from pain and suffering till some impairment of nutrition produces such change in the physical condition of some organ as shall cause it to infringe on its sensitive periphery. When the two systems are simultaneously involved they act and reäct upon each other, giving rise to that type known as continued or remittent fever. The equilibrium between the two systems will be interrupted, and there can be no health till it be restored. Now I conceive that quinine produces effects on the sympathetic or organic nervous system exactly analogous to those produced by opium on the cerebro-spinal system; in large doses it is sedative, soothing and allaying its excitement, and restoring it to its proper functions. In small doses it is excitant, and increases irritability, just as opium in similar doses

acts on the cerebro-spinal system. The size of the dose required to produce these opposite effects will be in proportion to the degree of excitement in each case. Now, if in case of simple intermittent fever quinine be given in sufficient quantity to allay the existing excitement, the progress of that excitement towards exhaustion and collapse will be arrested, and health restored. The organs whose functions had been deranged by the disturbance of the *regulator* will be restored to their normal condition, and will resume their duties. In case of remittent or continued fever, or in any case in which the two nervous systems have become simultaneously involved, if morphine be given with quinine the two systems will be simultaneously restored to their equilibrium, and will again act in harmony, to the restoration of health.

It may be that, from long continuance of functional derangement of some organ, organic disease will ensue, when, and only then, it will be necessary to treat it as a local disease. That organ, in each case, which is weakest and least able to throw off the engorgement accasioned by the stasis in the circulation produced by the debilitated action of the heart, the consequence of the depressing influence of the disturbing cause, malaria; or that which, from want of nervous energy, may be unable to transmit the blood that may come to it either in proper or excessive quantity, will be the organ most likely to require local treatment. In one case it may be the lungs producing so-called pneumonia, but more properly congestion of the lungs; in another the liver, in another the spleen, or stomach and bowels, often producing hæmorrhage from these organs; or the brain, producing convulsions or coma; or the kidneys. These latter organs are sometimes so much engorged as to produce hæmaturia, and when this affection is associated with congestion of the liver, producing jaundice, it has become fashionable to call it "black jaundice," and I have lately seen some elaborate treatises on this complication, in which the use of quinine was denounced as hurtful; but I think it as futile to attempt its treatment without the use of quinine as any other in the train

of consequences produced by the disturbing cause. And so in "pneumonia" so often met with during the prevalence of malarial fever, it is vain to attempt its treatment without the free use of quinine. I am satisfied that all the cases of "pneumonia" that I have seen in the course of a practice of thirty years, and I have seen it in Virginia, in Alabama, in Kentucky, and in Texas, were produced by "malaria." And although these cases occur more frequently in winter and spring than in other seasons, yet I invariably see more or less of it during the prevalence of malarial fevers in the summer and fall. The morbific influence, "malaria," may lie dormant in the system for an indefinite time, awaiting some favorable opportunity to pounce upon its victim. During the winter and spring after it has entered the system, some cause affecting the nutrition of the lungs, such as the frequent variations of temperature, the sudden access of cold air, or the like, may so lower their tone as to present this opportunity, and as such causes operate more powerfully on the lungs than on other organs, they being more exposed to them, they are more frequently affected at such seasons. I have for twenty-seven years, and in all the States mentioned above, treated those cases in accordance with the principles herein advocated, and have not lost two per cent. of my cases. For the first nine years of my professional experience I treated them according to scholastic teachings, and lost so many cases as well nigh to disgust me with the profession and cause me to turn my attention to other pursuits. Now it is, and has been for twenty-seven years, my delight to handle such cases, and I invariably am able to discharge them cured within forty-eight hours. Knowing the wide-spread prevalence of other views and other systems of treatment of this truly formidable (under such treatment) form of disease, and the great fatality that attends it, I feel that this will be considered vain and incredible boasting by my professional brethren who do not know me; but I can confidently appeal to all whom I have met in that long scope of time, and feel assured that they will sustain me. Particularly would I mention a man whose

recent position as president of the State Medical Asssociation of Alabama, a most accomplished physician and gentleman, is a guaranty of honor and truthfulness, whose writings illuminate the pages of many medical journals, Dr. T. C. Osborn, of Greensboro', Ala. Unknown to fame, I cover myself with his broad ægis, and beg to refer all sceptics to him for corroboration of my assertions. I am not writing for fame, but for the good of my species, and *knowing* the superior efficacy (I speak it boldly, risking the charge of egotism) of this treatment, I earnestly desire all to have the benefit of it. Let me give additional reasons for the "faith that is in me." In pneumonia, for obvious reasons, more, but in all forms and types of disease produced by the same cause, the nutrition of the system is impaired, and any medication that will still further impair it is hurtful. Hence it is improper to bleed, or to give drastic purgatives, or nauseants, that so exhaust the resources of nature necessary to repair damages. In the commencement of a case, where there is reason to suspect that undigested ingesta are present in any portion of the alimentary canal that might produce local irritation, it is proper to evacuate the canal by as mild means as possible; otherwise purgatives should not be given. Let us see the effect of bleeding and purging in "pneumonia." The blood with which the lungs are engorged is, for the time being, thrown out of the circulation, and Nature is to that extent deprived of her means to nourish the system; and in consequence of this engorgement the lungs are to that extent unable to perform their functions, and a smaller quantity of blood is ærated. Consequently, to accomplish her work with diminished means, she has to hasten the circulation, and to send around the portion of blood that is ærated in a shorter time. Thus the pulse becomes frequent, but, inasmuch as the vessels are not filled by the passing current, not so full as in health, and more compressible. If, now, a portion of this blood that is in circulation be abstracted by venesection, we still further deprive Nature of her resources; or if we abstract from the circulating blood a portion of its liquor-sanguinis by

cathartics, we accomplish the same thing, with the additional evil of thickening the blood that remains, and rendering it less capable of permeating the minute vesicles of the lungs, already contracted in diameter by their hyperæmic condition. The same reasoning will, *mutatis mutandis*, apply to other congested organs. As I said above, my patients suffering with "pneumonia" never need attention after forty-eight hours, when I see the case before organic lesions have occurred; and the milder types of disease seldom require more than one visit.

As my article has already reached a length that will require as much space as you, Mr. Editor, will be likely to agree to accord me, I will reserve a detailed application of the principles and treatment herein advocated to particular types of malarial diseases for one or more subsequent articles, if it be your pleasure. I will only add that it will be observed that in the above detailed case whenever I gave blue-mass, which, in accordance with the scholastic teaching that opium will arrest the secretions unless combined with mercurials, I twice ventured to do, it *invariably arrested* the secretions, making the tongue dry, and increasing the frequency, though not the force of the pulse. This effect it produced by impairing nutrition, and probably by *diminishing* the secretion of bile, which I believe to be the only effect that mercurials have on the liver.

When the extent of the influence of the sympathetic nerve over the secretions, and the nutrition of the system is considered, it will be perceived how great a variety of morbific effects any disturbance of this nervous system may occasion. The meninges of the brain and spinal marrow deriving their power of secretion from it, may become congested and inflamed, giving rise to cerebro-spinal meningitis. The nerves of sensation and motion deriving their vitality from this system, may have their nutrition impaired, and present various phenomena, as epilepsy, chorea, neuralgia, and the like, all of which would be amenable to the same treatment until their derangment, at first functional, had continued so long as to become organic.

The theory I advocate I humbly think establishes to a great

extent the doctrine of the unity of disease; at least it groups together large classes usually considered as distinct, and greatly simplifies treatment. Of course there are adjuvants that should be brought to the assistance of the main remedy, quinine, varying with the particular organ prominently affected. These adjuvants I will consider when I come to apply the principles above set forth to particular diseases, as I before promised.

ART. II.—A CASE ILLUSTRATIVE OF THE OPIUM TREATMENT IN PUERPERAL PERITONITIS. By HARRIS FISHER, M. D., Dublin, Ga.

Mrs. P., aged thirty-two, had been several years married without children or the occurrence of conception. Health uniformly bad. For the last eight months has not menstruated at all. Is suffering from indigestion, palpitation of heart, dismal forebodings, and all the train that make the subject of amenorrhœa miserable. After several months' treatment, menstruated imperfectly; next ovulation quite satisfactory; general health much improved. Did not menstruate again. Conception following; after a pregnancy of moderate healthfulness, labor came on at the proper time, and progressed very slowly, but without special cause of apprehension until the head was engaged in the inferior strait. After several hours' ineffectual labor, heightened to severity by the use of ergôt, and after consultation with Dr. P. W. Douglas, I applied the forceps, and with ordinary ease and facility accomplished the delivery of a dead child. This occurred, and she was put to bed at 3 A. M.

First Day.—At 9 A. M. saw Mrs. P. Countenance flushed; anxious; pulse 110 per minute; after pains severe. Had cloths wrung out of hot water applied to the abdomen, and gave ext. belladonna, gr. ss. Four P. M. saw Mrs. P.; still suffering from after-pains. Evidently has fever; pulse 120 per minute;

stroke hard and irritable. Marked abdominal fullness and tenderness.

℞.—Dov. Pow. grs. xv.;
Fl. Ext. Apocynum Can. gtts. x.;
Tinct. Dig. gtts. x.;
Water, q. s.

M. Give this every two or three hours during the night. Apply the hot cloths more assiduously.

Second Day.—Patient slept but little; very anxious and desponding; pulse 115 per minute; tongue red, dry, and glistening; abdomen enormously distended and very painful; pain radiating from the womb; lochial discharge almost entirely absent. Believing I had a very violent case of puerperal peritonitis, so informed her husband, and at once began the opium treatment.

℞.—Dov. Pow. grs. xxv.;
Fl. Ext. Apocynum Can. gtts. x.;
Water, q. s.

M. To be given every three or four hours.

Make a poultice of peach-tree leaves green, and meal, and apply to the entire abdomen; apply cloths wrung out of the infusion of the leaves to the vulva, and wash out the vagina with mucilage of sassafras buds and limbs, rendered still more unctuous with castile soap.

Third Day.—Nine A. M., Mrs. P. had free action of the bowels this morning, which was produced by large doses of cathartic pills comp. given yesterday evening, and followed by Rochelle salt, and enemas. Slept a little last night, and sweated slightly. Poultices and fomentations relieved the after-pains. Abdominal distension immense; has all the appearance of a woman at full term; can't bear to be moved or touched about the belly. Tongue red, dry and dusky; pulse 115; has been the subject of irritable kidney for a long time, and now cannot retain urine.

℞.—Dov. Pow. grs. xxx.;
Fl. Ext. Apocynum gtts. x.;
Water q. s.

M. Give every three hours.

Apply the poultice assiduously; use the vaginal injection

every four or five hours. Nutritious diet from the first; chicken broth, wine, soft-cooked eggs, alternated with milk-puddings and beef-tea. Five P. M., condition unchanged. Patient very much depressed; restless, thirsty, and refusing to be moved; lies on her back with the knees drawn up; some perspiration; no abatement in rapidity or force of pulse-stroke, this running up to 125 per minute during the night; no improvement in appearance of tongue; looking forward to a bad night. Abdomen rises up abruptly from the pubic bones to a great height, and stretches the entire skin above the ensiform cartilage; the discharge of the urine very great, and she obstinately refuses to be moved out of it.

℞.—Dov. Pow. grs. xl.;

Fl. Ext. Apocynum gtts.; v.

M. Give every two hours till she sleeps soundly; then sufficiently often to procure quiet and entire freedom from abdominal pain.

Fourth Day.—Nine A. M., saw Mrs. P.; after the third dose slept soundly; has been given one or two since. Feels much better; sweated profusely; pulse 100, softer; thirst not so great. Will allow the removal of the bed-clothing beneath her and the introduction of dry ones. Takes her food and medicines readily, and has some appearance of hopefulness. Continue treatment. Apply the poultices very constantly; abdomen diminishing from towards the epigastrium. Give the Dover's powder only when threatened with pain or restlessness during the day, but at nightfall resume the use of it every two hours till sound sleep is obtained. Entire disappearance of lochia; no milk in the breasts.

Fifth Day.—Visited Mrs. P. this morning. Slept well again; sweated profusely; feels much better, and abdominal distension continues to decrease. Visitors have been prohibited from the first. Continue yesterday's treatment, varying diet as much as possible. Four P. M., saw Mrs. P.; complaining of her hips and buttocks; insisted, and finally succeeded in obtaining her consent to be thoroughly turned about and examined. Found

the buttocks and hips, as suspected somewhat, in a state of dusky, purplish, erysipelatous inflammation. This was the result of lying so long in a puddle of urine. Remedied as far as possible by thoroughly sponging the parts and powdering with starch and keeping dry cloths under her.

Sixth Day.—After taking the usual quantity of Dover's powders last night, Mrs. P. slept well and sweated profusely; and though there is much constitutional irritation from the erysipelatous inflammation of the buttocks, the peritoneal affection is evidently abating. The abdomen continues to decline in fullness; pressure is better endured, and the pulse-beat is falling in frequency.

I shall not occupy more space by a detailed account further of this case. After the accidents of the erysipelas, and, subsequently, the most distressing sore mouth and throat, followed by a most obstinate diarrhœa, followed by a severe cough, and persistent hæmaturia, this woman at last recovered, and is now in very good health.

The only design in presenting this case in detail at all, was to enable the reader to form an opinion as to the correctness of the diagnosis, as well as to show the facts of the treatment. The *point* is the quantity of opium used in the Dover's powder. This form of giving the narcotic was selected, hoping to obtain the fullest diaphoretic effect. Forty grains of Dover's powders given every two hours till three are taken, represents, or is equivalent to twelve grains of powdered opium in six hours. The article used was made by my own hand, and each ten grains contained one of powdered opium by weight. Tinct. opii. prepared from the same article proved decidedly efficient when administered in doses of forty gtts. repeatedly given in my practice. The patient was not accustomed to the use of opiates; had a special aversion to them, and towards the close of her case only tolerated the ordinary doses of opiates.

The philosophy of this plan of treatment contemplates no *rule* as to dose, further than the obtaining of certain effect. Opium in one form or another must be given until the profound

constitutional shock is broken. The tendency to death is by asthenia. The very extent of inflammation, the area of inflamed and duplicated peritoneum constitutes the profundity of the attack. The heart and all the great centres of ganglionic innervation sympathize with this prodigious lesion. The Senior Meigs has grandly described the march of the inflammatory action from fold to fold of the peritoneum, and almost piteously pleads for the heroic use of the lancet in the incipiency of this grave affection. I shall not attempt to show the merits or demerits of his plan. Suffice it to say that I could see no place for it in my case.

My attention was directed to this plan of treatment by some statistics of its success in some foreign hospital. I regret exceedingly that I havn't them to refer to, but I remember the source was entirely reliable.

The apocynum was used for its diaphoretic and deobstruent effect, of which I may say more anon.

ART. III.—OBSCURE FORM OF ABDOMINAL MURAL ABSCESS.

By W. T. HUMPHREY, M. D., Louisville, Ky.

This case I desire to report, because of the difficulty in making out at first a diagnosis. The obscurity of symptoms completely mystifying the disease, and having brought forth a variety of opinions concerning the character of it before its true nature was known, I having read a partial report of it be- the Medico-Chirurgical Society of this city some time in January last.

Was called December 30th, 1871, to see Mr. E., a very large and robust man. He had been remarkably healthy all his life, and is now 74 years old. He caught cold in shoveling snow from pavement about two weeks before, and ever since had been complaining of tenderness in right side, which had greatly increased, and a considerable size tumor made its appearance in

the right lumbar, extending over in the umbilical region. I found it tender, oval-shaped, and through the abdominal walls seemed as large as a twelve-pound shell. His pulse was full and hard, beat 100 per minute; temperature 101, F. His bowels had moved freely during the morning. Has had no appetite for several days. His urine was secreted naturally, and on examination, was found healthy. He had an attack similar to this last June a year ago; however, the symptoms were not so severe, nor the tumor as large, which disappeared in a few days. Last August he had several chills, and then he complained of a tenderness in the same region, which he says never entirely disappeared, though gave him no trouble until after the severe cold about the middle of December, when the tumor appeared. I could not make out the nature of the tumor, and simply ordered for it warm water dressings, and as he had no appetite, gave him iron and quinine.

January 1st, 3 *o'clock P. M.*—Pulse 90, temperature 99½ F. His bowels had not moved for two days; ordered some aperient pills; they did not act, and he had a very restless night.

January 2d, 10 *A. M.*—Ordered citrate of magnesia, which brought two stools during the day; afternoon, felt better; pulse 86, regular and full; temperature 99 F. Ordered, if restless during the night, to take Dover's powders. He took two powders of seven grains each, and rested well until about 4 o'clock in the morning, when he became nauseated and vomited, afterward was quiet.

January 3d, 3 *P. M.*—Resting quietly; not so much pain. Still unable to make out my diagnosis, I requested a consultation, and Dr. Hewitt was called.

January 4th, 11 *A. M.*—Dr. Hewitt made a thorough examination, but could not arrive at any definite diagnosis. Symptoms about the same; bowels moved in the morning. We concluded to continue same treatment with an anodyne at night. We gave ext. hyosciamus in three-grain pills, which procured better rest at night.

January 5th, 3½ *P. M.*—Had suffered early in the morning

with nausea, and had vomited dark-colored liquid matter. Felt less pain during the day, although nauseated several times; pulse 76; temperature 99 F.; no motion of his bowels to-day; gave citrate of magnesia.

January 6, 3 *P. M.*—Had passed a bad night, and was very restless, complaining of pain. Tumor enlarged; and although he had taken a bottle of the citrate of magnesia, his bowels had not been acted on, and complained of great nausea and vomiting. I was afraid the tumor had produced obstruction. Ordered an enema of warm water, salt, and oil, which relieved his lower bowel, and he rested well during the night, better than for two weeks.

January 7th, 9 *A. M.*—Saw him with Dr. Hewitt; pulse 78 and regular; tumor hard and seemed to be nearer the surface; had more the appearance of an abscess. Continued same treatment, and as he was a man of full habit, he was to have an enema of a pint of warm salt water every evening, if his bowels did not move daily.

January 8, 10 *A. M.*—Had a restless night; the enema had not been given, and he had a hard nervous chill. Took a pill of hyosciamus; gave him an injection, per rectum, and brought away some fæcal matter, after which he rested well during the day, and to insure quiet during the night, doubled the dose of hyosciamus. Ordered two grains of quinine three times a day.

January 9th, 5 *P. M.*—Had passed a good night and felt better; skin moist, and reported that he had perspired freely during the night. Took a dose of castor oil about 9 o'clock, and at 11 o'clock had a large and offensive operation, considerable amount of hard feces passed. Tumor about the same; pulse 74 and regular.

January 10th, 11 *A. M.*—Rested quietly last night; had some appetite this morning; natural stool to-day. Tumor seems to be a little softened; pulse 80; temperature 101 F.; skin moist.

January 11th, 3½ *P. M.*—Did not rest well last night, suffering a good deal of pain; pulse 84 and regular; skin moist. His

bowels had, for several days, been in good condition, and as the tumor seemed so painful, ordered laudanum to be applied with the warm water dressings.

January 12th, 4 *P. M.*—Had a good night; some appetite; pulse 86; tumor less painful. It presents an oblong appearance, as if in the abdominal muscles. No motions of his bowels to-day, and if he had none by morning, he was to take a dose of oil.

January 13th, 3 *P. M.*—Had a very uncomfortable night from pain with nausea and vomiting. Took oil at 8 o'clock, and at 12 o'clock his bowels moved freely, and since has been quiet. Tumor seems larger and harder; temperature 101 F.; pulse 108 and regular.

Eight P. M.—Pulse 86; still restless and nauseated. Gave bromide of potash in twenty-grain doses, repeated every two hours, if restless. It quieted him a little and relieved the nausea.

January 14th, 11 *A. M.*—Found him easy and pulse down to 80; skin moist. Continued bromide of potash.

Ten P. M.—Sent for hurriedly, and found him in a hard, nervous chill, with nausea and gagging violently. In half an hour the chill subsided, and I gave him twenty grains of hydrate of chloral, but he vomited it up immediately. In a few minutes he had a motion of his bowels, after which I gave him one-eighth grain of morphine hypodermically; it quieted him immediately, and he rested well until 4 A. M., when he awoke in a profuse perspiration.

January 15th, 10 *A. M.*—Was sleeping quietly and almost free from pain. Tumor seemed a little larger, though to the touch, softer; pulse 88, soft, and regular; skin moist. Ordered, if restless during the day, to take hydrate of chloral. Rested well all day and until 3 o'clock at night, when he complained of severe pain in the tumor.

January 16th, 11 *A. M.*—Resting well; bowels did not move yesterday; gave him a dose of oil. Tumor, I think, softer, though I could not detect fluctuation; pulse 88; skin moist.

Seven and a half P. M.—Had two operations from his bowels to-day, and rested well all day; no appetite; pulse 84. Was fearful of a bad night, and I gave him one-tenth grain of morphine hypodermically, and left him quiet.

January 17th, 4 *P. M.*—Rested badly latter part of the night, though well all the morning; suffering a good deal of pain all this time; pulse 100, intermittent, and countenance anxious; no appetite. Ordered wine of wild cherry and iron, and if restless during the night, to take chloral. Took chloral early and rested well until 10 or 11 o'clock, after which rested badly.

January 18th, 10 *A. M.*—Sleeping quietly; pulse 92, and suffering very little pain; skin moist. Took a vial of urine to examine.

Eight P. M.—Found him quiet; pulse 104; rested well all day. Gave one-eighth grain of morphine hypodermically, and left him asleep. Found urine full of urates, otherwise healthy.

January 19th, 4 *P. M.*—Rested very well during the night and day; pulse 100, irregular; very little pain, and tumor much less sensitive to the touch; no appetite.

January 20th, 4 *P. M.*—Took chloral at 9 P. M. and slept well all night, and was almost free from pain during the day; had some appetite; pulse 92; tumor softer. Seemed encouraged when I told him I would explore it to-morrow.

January 21st, 3½ *P. M.*—After a consultation with Dr. Gaillard, the tumor was freely explored with the aspirator, and we drew from it very offensive pus. After making eight punctures, we drew about four oz. of pus. As the patient was considerably fatigued, we concluded to let him rest for a few days before proceeding further. The tumor was apparently multilocular, each cyst containing from half an ounce to an ounce of pus. We would exhaust each cyst by the aspirator, and would have to introduce this by a new puncture or subcutaneously before we could get any more pus. Applied flax-seed poultice and left him easy.

January 22d, 9½ *A. M.*—Had a very quiet night and slept

well, though his pulse was 120 and irregular. Ordered two grains of quinine every four hours. Bowels moved in the afternoon.

January 23d, 9½ *A. M.*—Had a bad night; punctures looking well; pulse 100, irregular, and feverish; bowels moved this morning.

January 24th, 10 *A. M.*—Passed a good night and resting well; pulse 100 and intermittent; some appetite.

January 25th, 9 *A. M.*—Rested badly last night; pulse excited and irregular; we made three or four punctures and drew off four ounces more of pus, which was not as offensive as the first. As the operation gave him so much pain, we concluded to suspend it. In one or two punctures the needle seemed to enter a hard mass, as if an enlarged gland or the hardened walls of an abscess. We concluded to call more consultation before cutting down and determining the true nature of the abscess.

Five P. M.—Dr. Cummins was called, and after an examination, gave, as his opinion, that it was an abscess in the abdominal walls, and advised that we should wait a few days and see if it did not point.

January 27th.—The tumor had some appearance of pointing at two of the punctures; and on the 28th there was decided fluctuation at one of them; I enlarged an opening made previously, and about one pint of pus escaped, and the tumor was considerably reduced in size. Ordered poultices reäpplied. On the next day, in consultation with Dr. Gaillard, we drew off the balance of the pus and the walls collapsed; however, before the pus was evacuated, we introduced a straight probe directly in for five inches, and then did not reach the peritoneal wall. (This is mentioned to give an idea of the thickness of the abdominal walls, also the immense size of the abscess). After the operation, a few days, his appetite returned, and he picked up a good deal. Although, stuffing the sac with lint, and using different kinds of injections, we were unable to produce adhesion of its walls; on the 26th of February, I found there was accumulating in a

sinus that had formed in the direction of the liver another abscess. Dr. G. and myself at once determined to make a free incision the whole length of the abscess; so after chloroforming the patient, I made an incision about seven inches in length, and found the abscess between the internal oblique and transversalis muscles. I stuffed the wound with lint, saturated with a strong solution of carbolic acid, and with the exception of the first few days, in which the margins of the wound were a little erysipelatous, his convalescence was rapid, and on the 10th of April, the day I last saw him, there was about one-half inch of the wound not healed; he was going round, and have learned since he is well, except his strength is not quite fully restored.

ART. IV.—FUNCTIONAL DISTURBANCE OF PNEUMOGASTRIC NERVE FOLLOWING THE REMOVAL OF A TUMOR FROM THE INFERIOR CAROTID TRIANGLE. By TANDY L. DIX, M. D., Shelbyville, Ky.

Not long since I was called upon to remove a tumor from the neck of Mr. W. The tumor was situated in the inferior carotid triangle on the left side, deep-seated, and when removed weighed two ounces. The operation was performed in the afternoon, with the patient well under the influence of chloroform. After the operation, and when the effects of the anæsthetic had passed away, morphine was exhibited, with a view of procuring a good night's rest. The patient, however, had but a disturbed sleep during the first part of the night, and towards morning he became *wakeful, was very restless*, and *troubled with constant cough, which painfully disturbed the wound; thereby intensifying the irritation.* By 8 A. M. the cough became so incessant and the breathing so much disturbed, that he could neither lie down nor sit up, but sat with his elbows upon his knees, his body inclined, and his head supported by his hands. His relatives, family and friends became alarmed at his in-

creasing distress, and I was hastily summoned to his relief. I found the patient seated as above described, with pallid face and an anxious expression of countenance. It was quite obvious, that if relief was not immediately obtained, grave results must ensue. In this emergency, I remembered that an ulcer in the throat would, by reflex action, through the pharyngeal, laryngeal, and auricular branches of the pneumogastric nerve, induce an earache, while upon the other hand, irritation of the ear will induce a cough. I also called to mind the effects of sundering the pneumogastric nerve upon the vocal cords and lungs.

My deductions then were: 1st. That the nerve was irritated. 2d. That the wound was in some way the cause of this irritation.

The problem before me was to ascertain how that irritation was produced; the discovery of that would of course indicate the method of relief.

I observed that while the patient was sitting inclined as above mentioned, he did not cough, and that the swollen parts of the wound were pendent; whereas, when I had him placed in a recumbent position, all the indications of irritation were very much aggravated, and that the soft parts gravitated toward the wound.

The sitting and inclined posture seemed only to relieve the cough, and not the general distress. It was clearly impossible, however, that in his enfeebled and irritable condition, he could long retain so uncomfortable a position. I had him placed horizontally upon the bed, and so far prone as was consistent with comfort. This position gave rest to the entire body, and left the wounded parts pendent. The most happy results followed. In two hours' time the irritable state had so far subsided as to admit of sleep. By the evening of the same day the patient was able to repose more upon the right side, and by the evening of the following day he could lie upon his back; and in due time a complete recovery was attained.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—MODIFIED INOCULATION. By C. H. TEBAULT, M. D., Visiting Physician Charity Hospital, New Orleans, La.

In offering the present paper for publication, I am influenced by no other motive than a desire to bring into somewhat more prominent, and I trust, too, more favorable notice, a subject hitherto attracting but a fugitive interest in the Profession. I allude to modified inoculation.

My attention was first directed to this subject by the accompanying note from George B. Wood, M. D., "Treatise on the Practice of Medicine," fifth edition, page 406:

"It was an easy inference from the modifying influence of the system of the cow on the variolous contagion, that a similar effect might be produced by the milk of the cow on small-pox matter; and M. Theile, of Kassan, and M. Robert, of Marseilles, proposed the use of such a mixture in vaccination. M. Brachet, of Lyons, in the year 1832, made some experiments with satisfactory results; and these have been recently repeated on a much larger scale at La Charité, in Lyons, by M. Bouchocourt. Equal parts of cow's milk and variolous matter taken from the pock in the vesicular stage were mixed, and then children inoculated with the matter.

"Others were inoculated from matter proceeding from the vesicles thus produced, and others again from these secondary cases. Of twenty-one cases, eighteen presented solitary vesicles, confined to the place of puncture, having all the character of genuine vaccine disease; others, but a few additional pocks. The inoculation thus performed proved protective." (See "London Medical Times and Gazette," April, 1854, p. 412).

From the month of October, 1864, until the surrender of Gen. Johnston, I was connected with the Ocmulgee Hospital at the Confederate Post of Macon, Georgia, and, together with

other duties, was appointed superintendent of vaccination. It was imperative at this date, by orders, so requiring, that every soldier, before receiving his discharge from the military hospitals, should be closely scrutinized with reference to the probable degree of immunity he enjoyed against variolous contagion; if he were adjudged sufficiently fortified against the disease, a certificate, so stating, was furnished him by the surgeon in charge, which he deposited with his ranking medical officer on returning to the army. If, *per contra*, he was not deemed properly secured, vaccination, or revaccination, was required to be performed, as the case might be; and a certificate, giving date of operation, statement of result, etc., supplied him, to be likewise surrendered on rejoining his regiment or company.

The numerous vaccinations and revaccinations which such orders imposed, proved ere long too exhausting for the supply of pure virus on hand. It hence occurred, that many of our soldiers were vaccinated from scabs, procured indiscriminately from each other; and it was precisely from just this quality of material that nearly all (excepting, probably, a fractional few which may have taken on erysipelas or gangrene) those distressing cases originated, jeopardizing at times life itself, as well as limb.

These anomalous cases were by no means of rare occurrence, nor were they confined within the pale of the army. Liberal details of medical men were sent throughout the country to vaccinate all the healthy children, so that an ample supply of the purest vaccinia should be ever at hand for the use of the medical staff.

This admirably-designed arrangement was destined to defeat itself. At first, moved by the double motive of patriotism and a desire to protect their offspring from the contagion of small-pox, at this time widely diffused through every State of the Confederacy, mothers unhesitatingly yielded the arms of their infants and older children to the charmed lancet of the surgeon. And thus for a while this most necessary work went successfully on without hindrance. But can it be wondered at that this spirit, but lately all aglow, on the part of mothers, should wane

and dim into well-nigh extinction, when spurious matter, by some accident or other, was used on their nurselings, developing, in lieu of simple vaccine disease, ugly, phagedenic sores, spreading into unmanageable and destructive ulcers, ending occasionally in the forfeiture of life, or else seriously compromising the future usefulness of the limb?

In this last view of the matter, it cannot be a subject of surprise that our legitimate virus could no longer sustain the ceaseless drain upon it. It was at this epoch in the history of the army, that I decided on testing the value of the note above quoted, being unprovided with reliable matter, and quite unwilling to compel soldiers to submit to the introduction of a virus, of which I could procure no history.

Accordingly, with every possible caution under the circumstances, and strictly conforming to the recommendations contained in the note adverted to, I engrafted one soldier after another with the modified lymph, until thirty-odd had swelled the list of my experiments. Of thirty-five persons thus successfully inoculated, three only exhibited a few additional pocks, in no case more than six, in addition to the seat of puncture.

No perceptible difference could be detected, whether in the course of the pock, or in its effects on the system at large, when contrasted with the phenomena attendant on simple, uncomplicated vaccine. None of these cases had been previously vaccinated. The wards of the Ocmulgee Hospital, at the time of these experiments, were more than usually crowded—the result of an order transferring the greater number of hospitals in this department to the Carolinas. It was thus rendered impossible to prevent the inoculated patients from freely intermingling with the rest of the inmates of the hospital, many of whom, even at this late day, had never been vaccinated; still, in the face of these facts, not even a single case of varioloid occurred within its walls, during or after the suspension of this practice. Previously, from time to time, an occasional case had offered.

The accidental information of which I became possessed, at

this juncture, at the hands of a friend in the Profession, Dr. S. E. Chaillé, Surgeon in charge of Ocmulgee Hospital, to-wit: that the laws of the State of Georgia were specially severe concerning any other procedure than vaccination, as a security against small-pox, influenced me to discontinue the practice, which I had so far kept to myself. A further inducement to avoid all possible conflict with the State laws, consisted in the fact of my now being in possession of a moderate supply of good material, secured from healthy children, whom I had recently vaccinated.

My observations on the subject, however, did not close here. A large small-pox encampment had been established on the outskirts of Vineville, about three miles distant from Macon. I use the term "encampment" purposely, for the patients were all treated in tents. It was under the direction of Assistant Surgeon L. Carter, at that time in the service of the Confederacy, and was an appendage to the Floyd House Hospital, Surgeon Dabney Herndon in charge.

I omitted to state a very important fact when recording the results of my own cases, which defect in this history, I shall correct at once. I had neglected to mention that those soldiers whose arms had perfectly cicatrized, permitted me, with some persuasion, to test, by a second inoculation, the degree of immunity so conferred, and this time with pure unmodified small-pox lymph. The material used on them, I intentionally secured from a case of confluent variola, and introduced the same in great abundance into numerous incisions. All that remains to be added is, that the second inoculation with confluent variola lymph, had no effect in the three cases thus experimented on.

At the encampment above mentioned, this modified inoculation was in general use, vaccination being entirely ignored. It was practiced, I believe, previous to the date of my own experiments, though unknown to me at that time. To this station all cases of variola or varioloid occurring at any of the Post Hospitals, were immediately sent for treatment. As the result of too much precaution, it frequently happened that soldiers were

sent out to this place, because their symptoms were suspicious, and associated with the fact that they had never been vaccinated, or had never taken, when, in truth, they were not laboring under the supposed disease. Such cases, after a systematic exposure of the kind, were constrained to remain here, till they were armed against the disease by measures looking to immunity, or had successfully passed through its several stages and sufficiently recovered therefrom.

The immunity never failed to follow successfully modified inoculation, as far as could be ascertained. In no instance, after the pock had attained to maturity, have I ever seen varioloid ensue. I cannot speak so favorably of vaccination, for I have seen small-pox itself occur again and again under exactly such circumstances, and, in spite of the unquestionable purity of the virus used. Hundreds of cases at this encampment were subjected to this modified inoculation, yet not a case found it necessary to take to bed. Their identity in every sense with vaccine was as noticeable and as thorough as could be.

The people of the neighborhood and the children, on applying to be vaccinated, were likewise inoculated, and the same favorable results were obtained. They visited and intermixed with each other without any restrictions on their freedom; yet, in this locality variola and varioloid were scarcely known. The few cases that did occur were distinctly traceable to exposure to small-pox.

It would seem that this immense focus of contagion, here centralized, would have invited numerous attacks of variola or varioloid among the dwellers of this immediate vicinage; but the converse was the case, whilst in Macon, these diseases were alarmingly prevalent. As far as could be determined by investigation, the few seized by either of the affections were confined exclusively among the non-vaccinated and the vaccinated—not a case occurring among such as had been protected by modified inoculation. The scabs derived from such inoculation in healthy children, were used with like happy results.

It is to be hoped that Dr. Carter will find an early occasion

to make known his very extended experience in the premises.

Dr. C. B. Gamble, of Florida, our estimable and respected Surgeon of the Post, on my apprising him of such procedure, in contravention of the State laws on the subject, was about to take instant means for its suppression. I entreated of him a little delay that he might inquire into its results, at the same time expressing how favorably I viewed its workings. I saw Dr. Gamble some two weeks later, and, in lieu of discountenancing and frowning down its further practice, he had become one of its advocates, in so far as to send scabs procured as above stated from healthy children to his friends and acquaintances writing for vaccine. These, he afterwards informed me, had behaved admirably in every case.

In the "Revue Medico-Chirurgicale," No. 13, published by Dr. A. Martin Lauzer, for 1865, may be found on page 543, the following, which I translate into English:

"*Inoculation of Variola-virus, Diluted by Admixture with Cream.*—M. Lanfranchi, Sanitary Officer at Guitera (Canton of Licavo District of Ajaccio), and Physician to the Canton, had to contend in 1854 with an epidemic of confluent variola, which carried off more than four hundred victims from the nine parishes of the canton, among whom children were to be found wearing manifest traces of previous vaccination. The variolous inoculation attempted in some of the parishes did not lessen the intensity of the malady. M. Lanfranchi conceived the idea of testing on his son a mixture of variolous matter and cream from cow's milk, after the ensuing method: Having made a small incision about the middle of the anterior aspect of the fore-arm, he deposited virus, just secured from a small-pox vesicle, into the same; and then taking a small quantity of cream from cow's milk, on the point of the same instrument, he introduced it into the same incision, spreading it to mix with the virus; then covering up the slight wound with a light coating of the same cream, which he required to dry before permitting readjustment of the child's dress.

"The result of this operation was not long waited on; a

slight irritation followed soon after the inoculation of the modified variolous virus. It formed a small scab which fell off or became indolent on the third or fourth day; when on the sixteenth or seventeenth day a well pronounced inflammation manifested itself at the incision; fever was kindled, and variolous pimples exhibited themselves in divers places on the body, to the number of seven or eight.

"The fever was mild in character, and the child recovered without having evinced the least restlessness. Six other children of the parish, not yet seized by the epidemic, were subjected to the same mode of inoculation, and like the son of M. Lanfranchi had a benign type of varioloid. Last summer a fresh epidemic of variola occurred in one parish, and successively invaded the entire canton. As in 1854, this epidemic seized on the vaccinated alike, as on the unvaccinated children. The small-pox was confluent, claiming many victims, and disfiguring those who did not succumb under its violent usage. Now, in this instance, M. Lanfranchi practiced, as he practices still at this moment, his inoculation of variola-cream, and the children whom he has thus protected enumerate above a hundred. With all, the effects were so exceedinlg mild, that a large number did not take to bed, and in no case did such inoculation present more than twenty pocks. It is difficult in families to put to the test the preservative virtue of such inoculation, by afterwards inoculating with the pure variola lymph; but what M. Lanfranchi could not prove on the children of his clients, he verified on his own son, at the suggestion of M. Cauro. With virus taken from a variolous vesicle, without admixture with cream, he inoculated his child ten years after the modified inoculation of 1854, and the result was void. The subject was perfectly refractory against the second inoculation."—*Journal de Medicine Practique.*

M. Lanfranchi's method is somewhat different from that pursued at Macon. His cases were something severer, and may be due to the difference in his plan of inoculating. In his severest cases, however, twenty pocks were the largest number that ever

occurred in his practice. There are few persons, it occurs to me, who would not accept immunity from the disease at this cost. He found this procedure infinitely superior to vaccination.

Let us briefly, in conclusion, draw what may be considered fair inferences from the foregoing facts:

1st. We hope to have demonstrated that its operation is equally benign with vaccination; in fact, that their action is identical, and resting this statement on an experience of fully five hundred cases.

2d. That the disease so engrafted, like vaccinia, is not communicable by contact.

3d. That the immunity it confers would seem to be more lasting, and otherwise superior to that responding to vaccination.

4th. That simultaneously with the occurrence of small-pox, we are supplied with a seemingly all-potent means for its arrestation.—*New Orleans Med. and Surgical Jour.*, July, 1866.

ART. II.—A VALUABLE REPORT—THE PROTECTIVE POWER OF VACCINATION AND REVACCINATION. [Prepared for the "Kentucky Advocate.]

The report of Dr. Welch, physician in charge of the Municipal Hospital at Philadelphia, for the year 1871, has just been published, and some of the facts contained in it are extremely interesting to the general reader, furnishing additional proofs, if any were needed, of the protective power of vaccination and revaccination. The whole number of small-pox patients under treatment at the Municipal Hospital during the year 1871 was 1,227, and of this number, 361 or 29.42 per cent. died, showing a fearful mortality, which, as it exceeds the general mortality of the city, is evidence that the cases sent to the hospital were of unusual severity. As it is to be expected, the percentage of deaths among the unvaccinated is exceedingly

large. Of 360 such patients, 254 or 65.12 per cent. died, while the deaths among the vaccinated were only 16 per cent., and of those who had a well-marked scar of the vaccine disease, only 9.93 per cent. died- Twelve infants under one year were admitted, and of these, ten or 83.32 per cent. perished. Seven of these twelve had never been vaccinated, and three had been vaccinated within a week of the appearance of the eruption, and after exposure to the contagion of the other two, one had been vaccinated seven days before the appearance of the eruption, and after exposure to the contagion of small-pox, and the other, eight days before its appearance. It will be seen that no child under a year old had been admitted into the hospital in whom the vaccine disease had run its course, and who may be fairly supposed to have been under its protecting influence. Could any argument stronger than this be adduced to show the efficacy of vaccination? The report confirms the general impressions among physicians that the protection afforded by vaccination is inversely as the length of time which has elapsed since the operation was performed, and bears overwhelming testimony in favor of revaccination. Only 14 out of the 1,227 patients under treatment had been vaccinated, and in five only of them had the operation been performed a short time before the occurrence of the disease, and in only two before exposure. Fourteen of the 1,227 patients claimed to have had either small-pox or varioloid at a prior period of life, and many of them have the scars, or pits, left by former attacks of the disease. This accords with the general experience of physicians; that one attack of small-pox does not always protect against a second, *and that the protection afforded by it is not comparable to that afforded by recent vaccination.* This is a fact not generally known outside of the medical world, and is well worthy of remembrance. It is a well-recognized fact now in medicine, that when proper care is observed in selecting and preparing vaccine virus, *the danger of transmitting constitutional diseases is extremely small,* and in view of the fact that so very few authentic cases of this kind are on record, is not

worthy of consideration against the benefits which the operation confers. Dr. Welch goes on to say: "In our tables we have found the percentage of deaths among our post-vaccinal cases to be 16 per cent. Let us suppose then that the 390 unvaccinated cases had been vaccinated in infancy; instead of having 250 deaths, they would have been reduced to 62, a saving of 192 lives by vaccination. Again, let us suppose that all who had been admitted during the year had been thoroughly vaccinated in infancy, and good scars had been secured; instead then of having 382 deaths, as appear in the table, we would have had only 118, a saving of 264." Apply this same reasoning to all the localities visited by this most preventable of contagions during the recent epidemic, and it will be apparent what a saving of life would have been the result. Another argument in favor of the protective power of vaccination is the exceeding rarity with which physicians are attacked with small-pox, and the still more infrequent deaths from it. Any one must have noticed this, and yet there is no class in the community more constantly exposed to the contagion of small-pox. Of course this immunity is due to the fact that every physician is careful to protect himself by vaccination and revaccination. In all ages, physicians have paid with their lives for the devotion they have exhibited for their patients, during epidemics of other diseases, and yet, while freely exposing themselves to one of the most virulent of all contagions, they have almost entirely escaped. They have endeavored to extend the same protection to their patients, but have too often been foiled by the stupid and senseless objections which have been urged against vaccination; and, as a consequence, we are confronted with the fearful mortality of the past year. In the face of all these facts, then, is it not plain that any one who undertakes to throw obstacles in the way of proper vaccination and revaccination assumes a terrible responsibility?

Art. III.—Treatment of Ganglion.

Recent numbers of the "British Medical Journal" contain a series of reports from the principal London hospitals on the mode in which the common affection termed ganglion is treated, and the following are amongst the more important methods that have been placed on record: Mr. Wood passes a spear-pointed needle, cutting on both edges and mounted on a handle, into the cyst, and made to transfix it again and again, so as to let out the synovial contents into the areolar tissue of the surrounding fascia. The needle is then made to scarify briskly the interior of the cyst, and is used pretty freely in dividing the cyst-wall, at its opening of communication with the sheath of the tendon. Pressure is then made with both thumbs upon the tumor, so as to squeeze out completely its contents, partly into the subcutaneous areolar tissue, and partly out through the opening in the skin by which the needle entered. Iodine paint is then applied thickly over the surface, and upon it a thick pad of lint, over which firm pressure is made by a bandage. This is kept on for several days, after which the iodine paint is again applied, and the pressure reädjusted. After a few applications in this way, the tumor seldom reäppears; and if it does so, a repetition of the process rarely fails to succeed. No case has been met with out of many hundreds treated, in which suppuration or any bad results have followed this plan; but several cases in which a seton had been employed have given rise to much trouble and danger from erysipelatous inflammation and abscess, followed by stiffening, and in some cases permanent impairment of the use of the limb. Mr. Henry Smith passes a single ligature thread through the cyst, and allows it to remain according to circumstances. In some instances severe inflammation and even suppuration will be produced in forty-eight hours, and then the thread is to be withdrawn. In the majority of instances, however, especially when patients are careful not to use their hand, the seton may be retained for a period varying from three days to a week without producing

any inconvenient symptoms; but so soon as suppuration takes place, Mr. Smith withdraws the thread, and the cure is almost invariable. It is necessary to bear in mind, in this treatment, that, in some constitutions and under certain conditions, the presence of the seton may produce very severe consequences; in fact, this is the only objection to the treatment. With care this rarely occurs; and there has been only one instance amongst Mr. Smith's patients at the hospital where bad results did happen. This was in the case of an unhealthy man, who applied with a ganglion as large as a crown-piece on the back of the wrist. Mr. Smith passed a seton. The patient did not apply until four days after, and in the meantime most violent inflammation and suppuration occurred. Free incisions were necessary, and the wrist-joint itself was threatened for a time; but the use of a splint and careful treatment prevented any mischief. The patient, however, was compelled to remain under treatment for several weeks. Sir H. Thompson applies, for ordinary and recently-formed ganglia about the wrist, tincture of iodine for four or six weeks, usually with good effect. If they resist this, he passes carefully through the centre, with a sharp needle, a double thread of silk, ties the two ends in a knot, and squeezes the contents out of the needle opening; and leaves the thread in for three days, applying water dressing. At the end of that time, if a purulent discharge be seen, and a little inflammation have taken place, Sir Henry removes the thread and applies water dressing; as a rule, there is no more trouble with the ganglion. If little or no action be produced by the tiny seton, he leaves it in a day or two longer. Sir Henry has never had occasion to regret this, but once an out-patient at the hospital, who did not attend at the end of three days, returned a week after the operation with erysipelatous inflammation of the arm. She did badly, and had some permanent stiffness of the hand in consequence. Mr. Christopher Heath endeavors to burst the cyst by pressure, and, failing in this, punctures it with a grooved needle, and applies iodine paint for a few days. Mr. Howse finds a certain number of

cases not curable by any of the above methods when the cyst-wall is thick and not capable of being replaced, or where it is situated under dense fascia, as in the palm of the hand. These are, he thinks, best and most expeditiously treated by excision of the cyst in the antiseptic mode.

ART. IV.—TRANSMISSION OF SYPHILIS BY VACCINATION.

Köbner adds to the detail of two cases of indubitable vaccine-syphilis a thorough investigation into the possibility of such transmission and the prophylaxis against the same. The author demonstrates from cases collected from the most different sources as well as from one described by himself that it is not at all rare for both contagions to be present upon the same arm. This occurs either in the form of a pustule resembling externally the vaccine pustule present by its side, but exhibiting at its base a positively syphilitic infiltration; or pemphigus vesicle, or acne, or a varicella syphilitica, in cases of general dermal eruption, presents by the side of the vaccine pustule and is regarded only as a supernumerry vaccine pustule. Such cases explain to us how it is that of several persons vaccinated with lymph from the same individual some become affected with syphilis while others escape; the non-affected having been vaccinated from the genuine vaccine pustule. Syphilis may be further transmitted by vaccine mingled with pus without the existence of the characteristic syphilitic eruption; the pus from a superficial ulcer being sufficient to transmit syphilis. This view is confirmed by the fact that transmission of syphilis occurs most frequently after the eighth day, after the period, thus, of the suppuration of the pustule. Finally, syphilis may be transmitted by a mixture of vaccine and blood, although this occurs but very rarely. The Vienois' blood hypothesis, as the author clearly demonstrates, is by no means sufficient for the explanation of all cases of syphilis.

The author claims, then, that public vaccination and revac-

cination from arm to arm as now performed in Germany and elsewhere, affords no guarantee against syphilitic transmisssion, and that it is an obligation of the State, as a supplement to its present law, to secure a sufficiency of scientific physicians to perform vaccination, and to secure at the same time a constant regeneration of vaccine lymph. The greatest difficulty in all prophylaxis is in the selection of the proper subjects from whom lymph may be taken. It is best on account of possible congenital or from the nurse acquired syphilis to select only those infants which are already over a year in age, and then only from families with which the physician is acquainted. Illegitimate children should not be used. Because the pustule appears perfectly normal, on the seventh or eighth day, is no evidence of the condition of the person from whom the lymph was derived. Virus containing blood or pus is always to be avoided under all circumstances, as are also pustules late or protracted in development.—*Sep. Abdr. Archiv. f. Dermat, and Syphilis*, 1871, Vol. II.

Art. V.—Uterine Operations.

Dr. E. B. Stevens says, in the "Cincinnati Lancet and Observer":

The comparative impunity with which grave surgical operations have been performed upon the uterine structure, within a few years past, is something remarkable, in view of the revolutionized uterine surgery of modern practice. It may not be amiss, in this connection, to allude to one or two of these. For the relief of the obstruction produced by an irremediable anteflexion, the operation proposed by Sims, and as modified by Emmett and Thomas, is to cut through one wall of the cervix, or remove a wedge of the wall, and thus substitute a straight canal for the crooked one. As just remarked, it is singular how little of unpleasant consequences has attended this operation; the philosophy of the suggestion seems plausible, but if we un-

derstand the recent reports of Dr. Emmett, the results of the procedure have not been as satisfactory as was originally claimed or anticipated; and we suspect it will be found that much of the "cutting and carving" of this structure will ultimately be found to be far from the innocent character that ambitious gynæcologists seem to imagine.

Of the same character would seem to us to be *amputation of the neck.* Under certain circumstances there can be no question of its propriety, and the operation has been performed ever since the days of Ambrose Paré; but for simple hypertrophied states and conical elongation, as is suggested, we cannot omit this occasion to express a word of deprecation. But to continue in detail a review of these surgical points would be needlessly to extend this paper. We will only notice one operation further that has been recently performed by Professor Thomas, of New York, for the relief of obstructive dysmenorrhœa. Instead of making a rapid dilatation of the cervical canal by means of the hysterotome section, he proceeded simply to pare off, from about the os, a ring of tissue. Dr. Thomas claims both entire immunity from danger to the patient and successful results.

We turn to another field of brief inquiry; the relative opinions in reference to the safety of this sort of interference; and we find that Emmett and Sims have reported a tolerance of the gravid as compared with the unimpregnated uterine cavity to the influence of foreign invasion which is remarkable. Ever since the pathology of the profession has become somewhat clear as to the nature of metritis, and especially endometritis, there has been a strong feeling that some plan of intra-uterine medication must surely be best adapted to the rational and speedy cure of these cases.

Now, Dr. Mendenhall, some years ago, reported the efficacy of applying persulphate of iron in solution within the cavity, for the arrest of post-partum hæmorrhage; and other practitioners have adopted the same practice with safety; but here we have a fully dilated condition of the os, and there is no retention of the fluid. On the other hand, very small quantities of

the blandest fluids have been forced within the uterus in the normal condition of the os and cervical canal, and frequently with the effect to produce terrible pain and symptoms of too grave a character to justify such procedure, except upon most careful and guarded methods.

To this end we now resort to processes of dilatation. Dilatation of the cervical canal is accomplished in several ways, and serves several useful purposes.

Means of dilatation are of themselves therapeutic as well as diagnostic; a dilating body is curative by virtue of the *pressure* it produces upon the cervical wall, and thus often itself is of advantage, aside from the additional means afforded for other applications. Dilatation enables the attendant to more satisfactorily explore the canal and the uterine cavity. Dilatation enables us to overcome the narrowed or constricted cervical canal, which frequently produces an obstructive dysmenorrhœa. Dilatation affords the necessary convenience of access for intra-uterine therapeutics, as well as means of exit for fluids simple or medicated which it may be desirable to introduce.

Dilatation has its dangers. It frequently causes pain; the dilator itself may produce irritation and inflammation.

The means generally employed are some form of tent or metallic bougie. Each has its advantages and objections. The *sea-tangle tent* is smooth, is readily introduced and free from irritation; but it dilates slowly and to a limited extent. When there is no reason for haste it answers well, and its expansive power may be increased by inserting several slips of the sea-tangle side by side. The *sponge tent* is more frequently used; I prefer it myself because it accomplishes its work more readily. It is more liable to become charged with offensive fluid, but this may be corrected by proper medication, and the time necessary for retaining it is at any rate not very protracted. A more serious objection made by Dr. Nott is the probable fact that the expanded sponge affords a surface of irritating points to the delicate tissues of an inflamed cervical canal; but I have never observed this result.

The Hysterotome.—Some prefer to incise the cervical canal completely with the hysterotome, following with a large sponge tent. This is rapid and complete, but the process of cicatrization is likely to nullify the final result, and, as a general procedure, seems to us objectionable.

Metallic Dilators.—Instead of tents, metallic dilators are employed by some as the more satisfactory plan. Dr. Nott prefers a form of dilating forceps, which he describes in the "American Journal of Obstetrics" (November, 1869). Without any practical experience in this instrument, I should yet think it promises to be worthy of favor. But the graduated sounds, especially the set of curved sounds of Kammerer, seem the most complete instrument devised. They are so graduated as to present a small sound to commence the process, and the increased sizes may follow at such intervals as the judgment of the attendant may approve; operating precisely upon the same plan as the surgeon overcomes a strictured urethra.*

But now having by some of these processes secured the free dilatation of the canal, we may, with comparative impunity proceed to *wash out* the uterine cavity, and apply to its surface such agents, fluid or otherwise, as may be indicated.

The intelligent treatment of chronic endometritis now seems brought within comparative reach; we may bleed this inflamed surface, with Storer's scarificator, just as we would the delicate vascular structure of an inflamed eye; we may paint the surface with such alterants as chromic acid or iodine, or some of the various agents fitted to change or modify the condition of the living membrane.

But that which is particularly interesting is to feel quite well assured that with these preliminary precautions, we may inject this susceptible cavity for purposes of cleaning or medication, with scarcely any fear of the uterine colic, so liable to occur

* This method of dilatation is not without danger. Peritonitis resulting in death has occurred.—E. S. G.

otherwise.* In a number of cases in which I have injected the uterus with this previous dilatation, there was no more disturbance than from passing nitrate of silver into the cervical canal; scarcely so much.

Art. VI.—"Nothing New under the Sun."

Photography only adds another instance to the many on record which prove the truth of Solomon's saying: "The thing that hath been is that which shall be, and there is no new thing under the sun."

Humboldt, in his "Cosmos," states that the Chinese had magnetic carriages with which to guide themselves across the great plains of Tartary, one thousand years before our era, on the principle of the compass. The prototype of the steam engine has been traced to the æolypile of Hero of Alexandria. The Romans used movable types to mark their pottery and endorse their books: Mr. Layard found in Ninevah a magnifying lens of rock crystal, which Sir D. Brewster considers a true optical lens, and the origin of the microscope. The principle of the stereoscope, invented by Professor Wheatstone, was known to Euclid, described by Galen fifteen hundred years ago, and more fully in 1599 A. D., in the works of Baptista Porta. The Thames tunnel, thought such a novelty, was anticipated by that under the Euphrates at Babylon and the ancient Egyptians had a Suez Canal. Such examples might be indefinitely multiplied, but we turn to photography. M. Jobard, in his "Nouvelles Invention aux Expositions Universelles," 1857, says a translation from German was discovered in Russia, three hundred years old, which contains a clear explanation of photography. The old alchemists understood the properties of chloride of

* This statement will be denied by many. Injections are now believed to have been the actual cause of severe suffering in morbid conditions comparatively harmless.—E. S. G.

silver in relation to light, and its photographic action is explained by Fabricius in "De Rebus Metallicis," 1566. The daguerreotype process was anticipated by De la Roche in his "Giphantie," 1760, though it was only the statement of a dreamer.

In Dr. Hooper's "Rational Recreations," 1774, is the following method of writing on glass by the rays of the sun: "Dissolve chalk in aquafortis to the consistence of milk, and add to that a strong dissolution of silver. Keep this liquor in a glass decanter well stopped. Then cut out from a paper the letters you would have appear, and paste the paper on the decanter, which you are to place in the sun, in such a manner that its rays may pass through the spaces cut out of the paper, and fall on the surface of the liquor. The part of the glass through which the rays pass will turn black, and that under the paper will remain white."

In 1802, Thomas Wedgewood and Sir Humphrey Davy contributed to the "Journal of the Royal Institution" a paper on "An Account of a Method of Copying Paintings upon Glass, and of making Profiles by the Agency of Light upon Nitrate of Silver." Let us take an extract or two from this paper, first reminding our readers that Daguerre did not announce his invention till 1839. "White paper or white leather," says the memoir, "moistened with a solution of nitrate of silver, undergoes no change when kept in a dark place; but on being exposed to daylight, speedily changes color, and, after passing through different shades of gray and brown, becomes at length nearly black. The alterations of color take place more speedily in proportion as the light is intense. When the shadow of any figure is thrown upon the prepared surface, the part concealed by it remains white, and the other parts speedily become dark. For copying paintings on glass, the solution should be applied on leather; and in this case it is more readily acted on than when paper is used. The copy of a painting, or the profile, immediately after being taken, must be kept in an obscure place." The instruments Wedgewood and Davy used were the camera-

obscura and the solar microscope; the images produced, however, by the former, were "found too faint to produce in any moderate time an effect upon the nitrate of silver." Davy says: "Nothing but a method of preventing the unshaded parts of the delineations from being colored by exposure to the day is wanting to render this process as useful as it is elegant." *Eclectic.*

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

Addison's Disease.—Dr. Finlayson reports in the "Glasgow Medical Journal" for August, 1871, a case of this disease. The following is a catalogue of the symptoms in the order of their appearance: Languor, feebleness, and impaired appetite; discoloration of the face, neck, and hands; pains in the back; profound æsthenia; occasional vomiting; discoloration of the mucous membrane of the mouth; hiccough; discoloration of fresh portions of the skin; giddiness; mistiness of eyesight; slight diarrhœa; fever; delirium; tremors, unconsciousness, and death. Dr. Coats, who made the microscopical examination, reports that the left capsule is very much larger than the right, weighing one ounce and six drachms. On section, it is seen to be in great part made up of a yellow, cheesy, opaque mass, and this mass is divided chiefly into two portions; one, about the size of a flattened walnut, at one end of the capsule, and the other, about the size of a hazlenut, at the other end. The large mass in some parts is pretty firm in consistence, but in other parts it is soft, and presents one or two distinct cavities filled with opaque yellow fluid; these cavities are in its more central parts; but at the periphery, and close under the external wall of the capsule, there is an infiltration of thick, yellow fluid which has to a certain extent dissected the internal mass from

the internal wall. The yellow fluid externally and in the central cavities is found, on microscopic examination, to be pus, whose cells are in an advanced state of fatty degeneration, while pretty abundant free fat-granules float in the fluid. The smaller cheesy mass presents similar central and peripheral collections of degenerate pus. On section for the microscope there is seen to be a thin layer just at the periphery of the orgar, which presents the same infiltration with round cells which exist in a much greater area in the right capsule. The cheesy central mass again shows very marked fatty degeneration; and the parts which are fatty are arranged in a somewhat irregular reticulated network, composed chiefly of oil-granules, but in which are interspersed several large brownish irregular bodies, which present some resemblance to the granular bodies that form the main constituent of the normal capsule; but here they are irregularly scattered, and only in rare cases do they show a slight approach to the arrangement in rows. The interstices of the network are much more transparent, and present a few oil-granules, but no apparent structure.

"From the consideration of these microscopical characters, especially the comparison of the condition of the right capsule, where the disease is obviously much more recent, with that of the left, it would appear that the primary process is an extreme infiltration of the entire tissue of the capsules with round cells, and these subsequently undergo fatty degeneration and form the central cheesy mass." From the microscopical appearance Dr. Coats concludes that the case is one of local tuberculosis of the suprarenal capsules.

Puerperal Temperature.—Mr. Squire has reprinted in a separate form his observations on puerperal temperature. He incidentally observes that the temperature of the vagina rises before the catamenia appear, and quickly falls afterwards. The temperature of the body is somewhat increased in the latter months of pregnancy. The commotion and efforts of natural labor, if not prolonged, do not seem greatly to elevate the temperature of the patient, even if accompanied with considerable

agitation, heat, and perspiration. The temperature of the vagina appears to increase towards the end of labor. In one such case half an our before delivery it was 99.9°, while only 97.8° in the axilla. In another case, more rapid but less severe, the vaginal temperature was 99.1° twenty minutes before the expulsion of the child, and exactly 99° ten minutes after. The temperature rises more in prolonged labor, and in proportion to the severity and duration of the muscular exertion required. In such cases a temperature of 100° to 101° is by no means infrequent, and 102° or more has been reached. It soon subsides after labour to the normal standard, generally in the first twenty-four hours. Sleep favors the gradual decline of temperature, and *vice versa.*

The well known elevation of temperature in connection with the commencement of the function of lactation is illustrated by Mr. Squire. The commencement of this reäction is most regular. It attains a certain prominence forty-eight hours after the birth of the child. The termination of the reäction is very variable, and slight causes suffice to produce disturbances of temperature, such as a sore nipple or a slight inflammation of the breast. In primiparæ the milk process is more slowly settled, and the normal temperature is not recovered so soon or so reliably as in other cases where the process of lactation has become a habit. In two of the three primiparous cases the temperature rose respectively to 102° and 104.37°. In the last case it is remarkable that a high temperature was maintained for twelve days without either the breast or its function suffering. The causes of the elevated temperature by arterial compression, are independent of the central nervous system. The influence of the suppression of the respiration is much more distinctly expressed if the vascular musculature of the intestine is withdrawn from the influence of the central nervous system by division of the spinal cord or section of the splanchnics. The vessels of the intestines do not then become contracted during the dyspnœa, and it may be clearly seen that the intestinal movements commence as soon as the blood becomes dark

in the dilated vessels, and again cease when, by resumption of the breathing, the blood in the vessels has become bright. Hence it follows that the quality of the blood is the essential condition affecting the movements of the blood. Experiments made with transfused blood lead to the same conclusion. The authors substantiate the statement that excitation of the vagus in the neck or thorax induces movements soon after death, though it is inoperative during life, and explain it by stating that the activity of the nerves commences at the period when the contracted blood vessels dilate, and dark blood enters the intestines. The splanchnic behaves in the same way. This nerve contains, besides motor fibres, also vaso-motor fibres, the excitation of which last occasions the arrest of the intestinal movements. The so-called spontaneous movements occur under circumstances in which the intestinal blood is venous.

Oxygen in Hæmorrhagic Small-Pox.—A note by Dr. M. H. Cahenki (Hamburg).—In our epidemic which has now, owing to the great neglect of vaccination and revaccination, lasted with varying intensity for five months, the malignant cases are characterized, as is usual by an accumulation of pustules in the face; to such extent, indeed, that the eruption is not only confluent in high degree, but there is offered also an uniform red surface. It is only on the trunk and extremities that the proper form of the eruption can be recognized. A close observation reveals the fact that the color of the pocks in the malignant cases is always dark, a proof of deoxidation of the blood. For many years it has been my practice in cases of extensive burn, whereby cutaneous respiration is interfered with in large surfaces of the skin and corresponding deoxidation occurs to combat the engorgement of venous blood in the brain by free inhalations of oxygen. This practice has been attended with decided success. In the present epidemic, with the same view that the immense surface of pustulation in the face almost completely checked cutaneous respiration in this important place of its occurrence, thereby permitting a venous engorgement of the brain, I have ordered the same inhalations of oxygen, and

have had the pleasure of witnessing its administration uniformly attended with good results. This occurred not only in the alleviation experienced in the relief of the venous congestion immediately after the inhalation, but also, what is more important and characteristic in the change of the color of the pustules themselves; being, before inhalation, of darker hue, after it, and permanently, too, of a rosy red. This is a clear demonstration of the favorable effect of the oxygen upon the circulation; the brain, thus, directly having relief from venous engorgement. *Berlin Klin Wochenschr.*, 1871. No. 26.

Lithotomy and Lithotrity.—These subjects, illustrated by forty-five cases in the practice of Dr. Gurdon Buck, New York, are discussed in extenso in the "Transactions of the Medical Society of the State of New York' 1870, which has just made its appearance.

Of the 45 patients whose cases are herein reported, 41 were males and 4 females. The ages of the males varied from 5 years to 85; of the females, from 25 to 56 years. Of those subjected to the operation of lithotrity, the youngest was 17 years old, the oldst 85 years. The ages of those subjected to lithotomy varied from 5 years to 65. New York city contributed 25 of these cases. The mortality after lithotrity in the aggregate cases was 9 in 55, or in the proportion of one in six and one-ninth cases. The only fatal case after lithotomy more properly belonged to the account of lithotrity, inasmuch as after several repetitions of lithotrity, the patient's condition became such as already to portend a fatal issue, when the operation of lithotomy was resorted to, as a desperate alternative.

The conclusions to which the author's own experience has led him may be stated as follows: For patients under 17 years of age, lithotomy is to be preferred. The only exception admissible to this rule might be a case not under 10 years of age, in which a stone was ascertained, by measurement with a lithotrite, not to exceed one-half to three-fourths of an inch in diameter; and which might very probably be gotten rid of by a single operation.

In adults, with a moderate-sized calculus coëxisting with a favorable condition of the urinary organs and general system, lithotrity is to be employed; also, where a like favorable condition of the local organs and general system coëxists, with a calculus of large size, but not of hard consistency. Lithotomy should be preferred if a calculus be found to be very hard, and to measure one inch or more in diameter. Great difficulty in passing the neck of the bladder with the lithotrite, whether from enlargement of the prostate or from a fixed position of the stone itself, should deter from the employment of lithotrity. In a debilitated or reduced state of the system from purulent cystitis and protracted suffering, irrespective of the size of the stone, lithotomy should be preferred. In a case of stricture of the urethra, its complete cure should be a preliminary step to the employment of lithotrity.—*Ex.*

New Incision for Ligature of Subclavian Artery.—Assistant Surgeon F. P. Staples, Medical Staff, communicates to the "Medical Times and Gazette," July 22, 1871, some observations on ligature of the subclavian artery, suggesting a new incision. The course of this incision is thus described: The patient being placed in the usual position, with the head back and to the opposite side, and the shoulder slightly depressed, let the point of the knife be entered at the posterior edge of the sterno-mastoid muscle, one inch and a quarter above the superior margin of the clavicle, and let an incision be made from that point, in a straight line, to within a quarter of an inch of the attachment of the trapezius to that bone (clavicle), dividing the skin and the platysma muscle. This incision should measure nearly three inches. The external jugular vein should now be ligated in two places and divided in the direction of the original incision. The deep cervical fascia should now be divided, and the edges of the wound gently separated, when the posterior belly of the omo-hyoid muscle will be exposed for its entire length. The edges of the wound should now be retracted, and the superior retractor should carry with it the omo-hyoideus; and when this has been done, the white cords of the brachial

plexus, with the artery inferior and internal to them, will be observed to occupy the bottom of the wound. The knife should now be laid aside, unless it is necessary to dissect out a lymphatic gland, and the vessel separated from the lowest cord of the plexus with a director and ligated in the usual manner. Tying the external jugular vein is not insisted upon, provided it can be easily drawn aside, but generally a ligature would expedite matters, and any branches of this vein which cross the line of incision should, if divided, be treated in the same manner.

The advantages claimed for the operation are: 1. That the incision is parallel to the normal course of the artery. 2. That the true guide to the vessel—the posterior belly of the omo-hyoid—is exposed for its entire length by the incision recommended. 3. That the edges of the incision admit of easy retraction, and in this way access to the vessel is easy. 4. That the risk of venous hæmorrhage obscuring the final steps of the operation is lessened.

These special advantages are further claimed: 1. That the incision is parallel to the omo-hyoid muscle throughout its entire length. 2. Retraction of the edges of the wound can be made in both directions. 3. In the incision recommended there is no risk of dividing the transverse cervical vessels.—*Ex.*

Siamese Twins.—We take the following from the "Druggists' Circular":—"The Siamese twins are among the most remarkable united twins the world has latterly known. In the year 1100, Eliza and Mary Chalhurst were born in Kent, England, united twins. They lived in this condition thirty-four years, and then one died. It was proposed to cut them apart; but the survivor would not consent, and she was dead six hours after her partner. Two girls were born, fastened together, in Edinburgh, many years ago. The food one ate nourished the other; but often when one slept the other would be "wide awake." They lived seven years.

"In 1700, Helen and Judith were born at Presburg, Hungary, united back to back. They lived twenty-three years.

Judith was always feeble, Helen always well and strong; yet they both died at the same moment. In 1856, two children were born united as Helen and Judith were. They are said to be living in Texas at this moment. They are entirely different in disposition and temperaments, and often have bitter quarrels. Lazarus and John Collorado, born at Genoa in 1617, lived many years. The attached and imperfectly developed twin John *hung with his head downwards* from the lower part of the chest of Lazarus. This double monster married and had several children, who were perfectly and admirably developed. They all visited Scotland in 1642. At the court of James III. of Scotland, there lived a man double above the waist and single below it. The two heads learned several languages, and often debated together. The two halves often engaged in angry fisticuffs. This monster lived twenty-eight years. One of the bodies died several days before the other. Dr. Boehm, a celebrated German surgeon, recently cut asunder two female children, aged five years, who were joined like the Siamese twins. One of the girls died on the day of the operation. The other was, at last accounts, alive, and in the best of health."

The Radical Cure of Fistula in Ano without the Knife. By Edward C. Huse, M. D., Rockford, Ill.—A prompt and successful result, in several cases of anal fistule treated by injection of iodine, has induced me to call attention to this subject in the "Record."

While disclaiming, of course, any originality for this *plan* of treatment, the *manner* in which I have employed it is probably somewhat new. At all events, it has thus far been entirely and permanently successful in my hands; and the suggestions of M. Henry, assistant to M. Bonnafont, as long ago as 1858, on this subject, seem to have met with undeserved neglect.

The iodine should be employed in the form of a *saturated ethereal* tincture. Its advantages over the officinal or alcoholic tincture are obvious. It is not only *stronger*, and thereby excites inflammatory adhesion in the walls of the tube, but the

ether evaporates almost momentarily, and a pure coating of iodine is left along the fistulous track, which doubtless encourages absorption.

The instrument I have used is an ordinary hypodermic syringe, with small silver canula, which may be readily bent to correspond with the direction of the sinus.

The mode of operation is as follows: After exploring the fistula with a *very small* probe (the ordinary probe of the pocket-case is far too large), after determining its course and extent, the patient is to be placed in a good light and a glass rectal speculum introduced, with its fenestrum opposite the internal orifice of the fistula. The canula is now bent to the required curvature and introduced, when the syringe, filled with tepid water, is screwed on, and the surface thoroughly cleansed of all extraneous matter. This step is not only essential, but serves to allay timidity, or dread of the subsequent operation.

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Next, by pressure, the fistula in its whole extent should be dried out, and the iodine will thus come in direct contact with its walls. Introduce now into the speculum a quantity of carded cotton. This will absorb any of the iodine which might otherwise be injected *through* and injure the mucous membrane, and by its characteristic stain will serve to show the completeness both of the fistula and of the operation.

The canula may now be reïnserted and the injection made. It should be done *slowly*, and at the same time the canula gradually withdrawn. Every part of the surface will thereby be reached.

The operation, which is not very painful, should be premised with a cathartic and followed with a full anodyne, as ordinarily with the time-honored knife method. The patient need not be confined to his bed, or room, even for an hour.

Thus far I have performed this operation four times, and, as remarked above, with immediate and complete success. The patients were, all but one, below thirty years old. One was tuberculous, but no appreciable injury accrued from thus checking what we were once told is in phthisis a conservative drain.

In my first case, a clerk, æt. 23, there was a dense and almost cartilaginous state of the fistulous wall, and the injection had to be repeated; but in the others, one "sitting" alone was called for.

Absorption of Mercury through Animal Membranes.—Dr. Rindfleisch, of Bonn, has been making experiments on rabbits with reference to the passage of mercurial ointment through the skin, mucous, and serous membranes, with negative results. The ointment was rubbed for some time on the inner surface of the ear, and a subsequent microscopic examination could not detect that a particle of the mercury had penetrated the epidermis, the sub-cutaneous net-work of vessels being entirely free from it. A quantity of the ointment was retained in contact with the conjunctival mucous membrane by sewing the eyelids together, and no mercury passed through the conjunctiva. The ointment was then administered with their food, producing inflammation and ulceration of the intestinal mucous membrane; and in the mesenteric glands corresponding to the ulcerated portion of the intestine, were found particles of the mercury, but none could be discovered in either the blood, liver, lungs, kidneys, spleen, brain, or bones. Small pieces of the ointment were placed in the peritoneal cavity, and the results were again negative. A few particles were found in the lymphatics of the diaphragm, but only there.

The Doctor, therefore, concludes that quicksilver contained in blue ointment passes neither through the skin, mucous, nor serous membranes, so long as they are sound, but may be introduced through open lymphatics and the bases of phagædenic ulcers.—*London Med. Press and Circular.*

New Method of Determining the Presence of Albumen.—Mynott Tidy recommends, for determining the presence of a small quantity of albumen, the use of phenic acid. Equal volumes of acetic and phenic acids are mixed. Observe if the addition of a drop of this mixture to water produces a precipitate; if not, the mixture can be employed to discover albumen; if,

on the contrary, the test succeeds, add to the liquid acetic acid until it no longer renders water turbid. This reägent will demonstrate the existence of albumen in fifteen thousand times its volume of water, while nitric acid ceases to show albumen when it is diluted eight thousand times.—*New York Medical Journal.*

Embolistic Origin of Tuberculosis.—Dr. E. G. Janeway, of New York, writes: Recently in examining the pia mater in a case of tuberculous meningitis, I encountered a small artery one-thousandth part of an inch in diameter, containing an embolus smaller than the calibre of the vessel, loose in its channel, and about one five-hundredths part of an inch in length. It was made up of shrivelled and closely-packed cells, with fatty granules. The cellular nature was apparent at the sides and extremities, and was partly open to red blood globules. There was no obstruction of the larger arteries by thrombus. The lungs contained cavities and were in a state of fibrous induration. This is simply an isolated fact; but in view of the supposed embolismic origin of tuberculosis it is of some importance, and may serve to make other observers investigate the condition of the small arteries more carefully in cases of tuberculosis.—*Ex.*

Koumiss.—This is prepared from mare's milk, a beverage which the nomadic tribes of Bashkirs and Tartars drink in a state of fermentation. Dr. Victor Jagielski, late physician of the Prussian army, has been led to consider, in common with many physicians of Russia and Germany, that the popular belief of these people, which ascribes their exemption from consumption, bronchitis, and other diseases, to the almost exclusive use they make of koumiss, has a considerable foundation in fact. One of the first persons to direct attention to koumiss as a dietetic and therapeutical agent was a Dr. Grieve, F. R. S. Ed., who held the post of physician to the Russian army. The best koumiss is manufactured in the government of Orenburg, especially on the large estates of Istchoff, in the village of Kilimow, in the district of Beleber.

Koumiss Institutions, supported by the Imperial Government of Russia, are now existing in Samara, under Postinkoff; in Odessa, under Dr. Levenson; and in Moscow, under Dr. Stahlberg. These establishments are preparing their koumiss from mare's milk; but within the last ten years institutions have been founded nearer to the centre of Europe, where koumiss is prepared from cow's milk, as in Warsaw, under the management of Dr. Przystanki. In St. Petersburg, and many other towns of European Russia, there are also institutions where koumiss is prepared from cow's milk by workmen brought expressly from Tartary, as well as in Charlottenberg, near Berlin, and in Ottenstein in Saxony.

Drs. Lersh, Schwepp, With and Stahlberg, give a favorable opinion as to its effects as a remedy. When a Russian physician advises his patient to take koumiss, the latter at once conceives the idea that he suffers from consumption; and in fact the belief in the power of koumiss in this disease is said to have taken such root, that patients use it of their own accord, without any appeal to medical advice.—*Lancet.*

Loose Cartilages in the Knee-Joint.—Among the papers read was one by Mr. W. J. Square, upon the above disease, with special reference to its treatment by subcutaneous incision and removal of the cartilage. The author stated that since he published his account of this operation ten years ago, when he related nine cases, he had performed the operation fifteen times. The twenty-four cases had all been operated on without selection, and all had recovered without drawback.

The operation, as practiced by the author, consists in the conduction of the cartilage to the inner and lower part of the joint, and maintenance there by an assistant. A tenotomy knife is then introduced, and the capsule of the joint freely incised upon the cartilage. The knife is then directed so as to open cellular tissue over a convenient part of the fascia. The cartilage is now pressed and lifted out of the joint into the cellular bed prepared for it, and slides along for about three inches. It is fixed *in situ* with a firm pad and adhesive plaster, the foot

and leg being bandaged up to the edge of the cartilage, and the limb placed in a splint. If no inflammation ensue, the cartilage is excised about a week after the operation. In reply to a question as to whether he fixed the cartilage by passing a needle through it, and then cutting down upon it, he said he had done so on two occasions, and found the plan very inconvenient, as there was great difficulty in withdrawing the needle, which stuck firmly.

He believed that this affection was not dependent upon rheumatism, but upon violent use of the knee. Mr. Longmore stated, however, that only one case had occurred in nine years of his experience among the soldiers in Italy.—*British Medical Journal.*

Tincture of Veratrum in Pneumonia in Children.—Dr. Jacobi, in a clinical lecture before the New York Medical Journal Association, says, "In acute pneumonia of a baby, I would give a drop of the tincture every hour; to a child four or five years old, perhaps two drops every hour. If the attendant is intelligent enough to count the pulse, I say bring down this pulse to 110, or 100, but not lower; because when the pulse falls lower, the drug is apt to cause vomiting and temporary collapse. To obviate local irritation of the pharyngeal or gastric mucous membranes, I give the tincture in barley-water. This drug has no cumulative effect like that of digitalis. It will bear combination with quinine, and I think this an important point. I often combine quinine with veratrum or digitalis where I want to get, not a speedy, but a continued effect upon the pulse, especially in the pneumonia of a debilitated child, where you are in doubt about stimulating to any great extent; where you do not know whether you ought to commence with benzoic acid, camphor, etc., you will control the pulse better with quinine and veratrum than with the latter alone. I ought to add that, in most cases it is advisable to combine opium or hyosciamus with veratrum to obviate local gastric irritation." *New York Med. Record.*

Fatal Salivation from Bichloride of Mercury.—In a case which is fully reported in the "Lancet" for September 16, Dr. Meeres applied with a small camel's-hair brush a strong alcoholic solution of corrosive sublimate—eighty grains to the ounce—to the head of the child affected with tinea tonsurans. The application gave rise to no pain at the time, but during the ride home, in an open dog-cart, the child suffered severely. Shortly afterwards vomiting and purging came on. Salivation, accompanied by much swelling of the parotid and submaxillary glands, was first observed on the evening of the day after the application, and continued until death took place, apparently from prostration, on the morning of the fifth day.

The verdict of the coroner's jury was "that death was caused by poison from the application of a very strong preparation of bichloride of mercury made to the head and neck by Dr. Meeres," and that "Dr. Merees is very greatly to be blamed for having made the application."

The lotion applied was from a formula of Dr. Tilbury Fox, and has been used by him in a precisely similar manner in the same disease in very many instances, and this case is the first in which any untoward symptoms have been produced by it.

Rhinoplasty—Talicotian Operation.—Dr. J. F. Miner, of Buffalo, N. Y. ("Buffalo Medical and Surgical Journal"), reports a case of rhinoplasty after the Talicotian operation. The patient, a young woman, when first exhibited to the class, was deficient in the entire lower half of the nasal organ, leaving the nasal cavity exposed and unsightly. Three months after the operation the patient was again introduced, with a restored organ so perfect in all respects as not to attract attention as presenting anything unnatural. It has been examined by many surgeons of great experience, both in our own and foreign countries, who pronounce the result in all respects unsurpassed.

The experience in this case leads him to believe that the Talicotian operation is very difficult and uncertain, and that, though successful in this instance in a remarkable degree, yet many partial or entire failures will accompany every such case of suc-

cess. The risks of non-union, the liability to death of flap after separating it from the arm, the certainty that any change or pressure upon the delicate vessels which supply the part attached, will interrupt the circulation, or destroy the vessels altogether, constitute sources of entire failure; while miscalculation in the size, shape, and adjustment of the new material is liable to cause failure in obtaining proper contour of the organ. The whole procedure is attended by difficulties and uncertainties; but if attended by success in one case, the achievement will amply compensate for several failures.

A Remedy for Ringworm.—Von Erlach and Sucke recommend spirits of turpentine, brushed over the surface, as a remedy for common ringworm.—*Journal of Cutaneous Medicine.*

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

CENTRAL KENTUCKY MEDICAL ASSOCIATION. FIFTH REGULAR MEETING HELD AT DANVILLE, KY., April 17th, 1872. Reported by Dr. A. D. PRICE, Secretary.

Dr. Brown, President, in the chair. Prayer by Dr. Taylor. Minutes of the previous meeting read and approved. Constitution and by-laws read for the benefit of newly-elected members.

New members elected: Drs. W. A. Downton, M. W. King, M. A. Brown, W. R. Evans, D. M. Thompson, and E. McClellan, U. S. Army.

Dr. Brown, the in-coming President, on being conducted to the chair, thanked the Association for the honor conferred; was glad to see the Profession awakening to the responsibilities resting upon it, and hoped each member would seek to uphold and strive to advance the interests of a noble and useful calling.

Dr. Spilman, the retiring President, read a paper on the

Philosophy of Generation, of which the following is a brief extract:

In yielding up the honors with which he had been invested, and complying with a time-honored custom, he would call the attention of the Association to a subject which, though perhaps inappropriate, yet involved principles that lie at the foundation of some of the most important laws of medical science.

The animal ovum contains a germinal cell, a vital principle, an organic force. Previous to fecundation, this force exists in a quiescent state. It, however, possesses a special endowment with attributes that place it in relation with external influences called vital stimuli. Chief among these, and that which is essential to the propagation of the species, is the productive principle of the male imparted during the sexual embrace by the stimulus of which the condition of "static equilibrium" in this vital force is disturbed, and a state of motion and activity set up, which, in obedience to fixed laws, appertaining alone to organic nature, results in the formation, growth, and development of the new being.

In the act of impregnation, the results of which afford a striking exemplification of the natural relation between the ovum of the female and the fecundating fluid of the male, and the agency of each parent in the formation of the new being, we have a type of the mutability of the vital properties, and the manner in which they are liable to be modified by the vital stimuli.

The specific vital force of the ovum before impregnation is determined solely by the vital constitution of the female; and, although for the time in a quiescent state, contains "the potential whole of the future being." After impregnation, however, the vital properties of the ovum will be found to have undergone such a modification by the stimulus of the semen as to impart to the new being many of the characteristics of the male parent.

This principle is strikingly exemplified not only in the products of cross-breeding between different species of animals,

but also in the offspring of distinct species of the human race, upon which the characteristics of both parents, physical, moral, and intellectual, are impressed.

Vital deterioration is usually in the ratio of the disparity in the species so blended, Nature having set her seal of abhorrence upon such alliance by greatly weakening, and sometimes extinguishing, the power of pro-creation in the mongrel.

The function of pro-creation is one of reciprocity, the integrity of the new being depending on the natural congeniality of the parties and vital affinity of the germinal forces in sexual commerce.

Facts render it highly probable that there exists some vital law transcending the common vision of physiological inquiries, by which children are the doomed victims of parental disunity. Conjugal alliance between those of the different branches of the human family is a prolific source of vital deterioration and mental imbecility; in those of the same branch where a physiological incompatibility exists, a solution may be sought in the vital relations of the temperaments.

That which is of special interest in the phenomena of procreation, is the concurrent agency of both parents in the production of the new being. The modifications implanted upon the vital properties of the ovum by the productive fluid of the male in the act of impregnation, continue throughout the life of the being, determining the vital constitution, and moulding and directing the physical, moral, and intellectual characters. Of the nature of this rudimentary vital process, we know but little. We can only judge of the specific relation of these forces, and the laws they obey, by the resulting phenomena; and these clearly indicate that the semen of the male exerts upon the vital properties of the ovum such action as to originate those elementary combinations, aggregations, and molecular arrangements that result in the formation, growth and progressive development of a new being, which combine in varying proportions, the characteristics of both parents.

The vital impress of both parents is stamped upon the off-

spring. In one instance the physical peculiarities of the male, and the moral and intellectual attributes of the female parent respectively predominate; and, *vice versa*. Again, a child will equally combine the physical characteristics of both parents, while the moral attributes of the male, and the intellectual of the female respectively predominate; and, *vice versa*. In the distinctive peculiarities and attributes of a child, the characteristics of both parents may be found fully blended. And occasionally we perceive in the offspring a complete transcript of one parent, while no resemblance to the other can be traced except that which determines the identity of the species.

Every part of the human organism possesses special vital endowments—passive until roused by appropriate stimuli. The modifications of the properties of life, by a given stimulus, correspond to the nature of the agent.

The special function of the ovum is pro-creation, which is in a state of rest until excited to rudimentary development by the stimulus of the semen, the latter stamping upon the former its own vital impress. Thus we have a key to the philosophy of the transmission of disease, whether through the male or the female parent. Scrofula, syphilis, gout, rheumatism, and all other constitutional affections are in this manner transmitted—the diathesis being impressed upon the germ by one parent or the other, or by both.

There are vital principles underlying the physiology of generation that are yet but little known, and not to be satisfactorily explained upon any existing hypothesis. Sterility, where male and female are healthy, and sickly progeny from sturdy parentage, are phenomena explained by no recognized physiological law.

Science has never reached the marrow of this subject. There is a broad field that challenges research; and much of the obscurity that shrouds it, arises from a misconception of the essential nature of our present being, and of the mutual relations and dependencies of its physical structure and animating spirit.

Small-pox.—Dr. Plummer opened the debate upon this sub-

ject with an interesting paper, of which the following is an abstract:

The disease was, in all probability, first noticed in Egypt, A. D., 544, whence it spread to Constantinople. The first historical writings of the disease are those of Procopius and Rhazes. After defining the disease, he said that each individual of the human species is, it would seem, born with the susceptibility to contract the eruptive fevers. There is in the organization, most likely in the blood, some inborn principle or ingredient, not essential to life or well-being, by which we are rendered liable to these diseases.

Few escape the exanthemata; and the body is generally no better or worse for having passed through the change, save the disfigurement from small-pox, pneumonic mischief from measles, and injury to the ear and kidney from scarlatina. There are seven varieties of the disease, and four stages: 1st. Incubation, lasting generally twelve days. 2d. Invasion or eruptive fever, continuing forty-eight hours. 3d. Maturation, lasting about nine days. And 4th. Secondary fever, desiccation, and decline.

The appearance of the disease upon the skin is almost invariably upon the fourteenth day after infection.

Variola discreta may be mild or malignant.

The semi-confluent form is, as a rule, mild; the confluent is the most common form, and that from which the greatest number die, the mortality being in proportion to tho amount of pustulation.

The disease is much less fatal in those of temperate than intemperate habits in the latter, the nervous system soon becomes involved.

The malignity of the disease depends upon and is in proportion to an unhealthy or depressed condition of the system.

When the pustules are very flat and do not acuminate well, or when they have been out for some days, and then have a tendency to spread, or when a dark speck forms on the pustule during maturation, the patient should be considered dangerous. When the pustule is watery, and the rose-red color around

it wanting, and the whole skin inflamed, the case will either terminate fatally or convalesce slowly.

The corymbose variety is very rare, singular, and fatal. Variola maligna is the most frightful form of the disease; often terminating fatally before the eruption makes its appearance. The most dangerous symptom being effusion of blood under the conjunctiva. Variola benigna is a mild form, and of short duration. Small-pox may be complicated with pneumonia, bronchitis, phthisis, dysentery, syphilis, urticaria, measles, scarlatina, or any of the zymotic diseases. Pregnancy and gonorrhœa are unfortunate complications. A correct and early diagnosis is most important, both for the patient and the community, and for the reputation of the medical attendant. The disease may, in its early stage, be confounded with measles, febrile lichen, varicella, and some forms of continued fever; but doubt cannot long continue. The temperature of small-pox prevents a progressive series till the maximum is attained, after which it gradually declines. The first attempt to modify the disease was by variolous inoculation, which was practiced in Constantinople in 1700, and in America for the first time in 1721. Inoculation is the only sure test for vaccination. Vaccination was demonstrated to the world in 1798. It is, when properly performed, a sure preventive of the disease; it is indeed but small-pox rendered mild and deprived of its contagiousness by passing through the cow. Cow-pox is the same as small-pox in man, by whom it was communicated to the latter. Spurious vaccination is dependent upon some cause not connected with vaccination proper. The disease requires but little treatment, nourishing diet, tonics, and stimulants p. r. n., and plenty of fresh air, tents being preferred to in-door apartments.

Dr. Meyer endorsed the paper, and believed the great thing was the stamping out of the disease. To this end the combined energy of all medical men should be directed. Proper vaccination was proven to be a certain preventive, and medical societies should see that this blessing visited every household. He was aware of the difficulty in the way, but much could be accom-

plished by united effort; he had had but little experience in the treatment of the disease; would use mild tonics, nourishing and cooling drinks.

Dr. Harland approved the paper, and thought the subject one of so much importance that we should proceed to originate means for stamping out the disease, but should do so with caution, as it had proven a difficult matter to obtain legislative enactments in behalf of the community and the Profession.

Dr. Spilman thought the paper an admirable abstract of the subject, and could endorse the treatment only in part. If he understood Dr. Plummer correctly, active treatment should never be instituted. This was wrong; it was right and proper in uncomplicated small-pox, but cases would arise in which it was necessary to interfere actively. Accidental diseases will arise, as pneumonia, etc., when the patient's life will depend upon active interference. He had bled in small-pox complicated with pneumonia to the extent of twenty or thirty ounces, and with benefit; need not fear bloodletting in such cases, for the increased vital power always enabled it to be well borne. He would treat unmodified small-pox with quinine and sustaining remedies, but actively when complicated with accidental diseases, as success depends upon it.

Dr. McKee would only throw out one or two thoughts. It is impossible to lay down any line of treatment in these days when the progress of medicine is so rapid. Vaccination should claim the attention of all; he did not believe any disease could be transmitted by it unless blood was used. Vaccination after the reception of the variolous poison may prevent or arrest the disease. Such was the case in a family that came under his care during the war.

The protecting power of the virus may deteriorate; he believed it is graduated from complete protection to no protection. The mortality of the disease was 65 per cent. in unvaccinated persons, 20 per cent. in those who had a bad mark, 10 per cent. in those who had one good mark, and 5 per cent. where

there were two or more good ones. All persons should be re-vaccinated.

Dr. Burdett said that Dr. Plummer had overlooked one important point, at what stage is the disease communicable? He did not believe it so till the stage of suppuration; endorsed the treatment as laid down in the paper, and was surprised to hear Dr. Spilman advocate bloodletting in complicated cases; had better let nature alone in all epidemics. The great danger was in trying to do too much.

Dr. Huffman would endorse the paper; no active treatment is called for in the management of small-pox.

Dr. McClellan, United States Army, would add his testimony to that part of the paper recommending the isolation of small-pox patients, and putting them under canvass. This he considered a great improvement, and the only objection to it—the light and glare, could be obviated by lining the top of the tent with calico or some dark material. It was impossible to lay down any line of treatment in grave epidemics; his treatment would, in general, be sustaining remedies.

While stationed in New Mexico, a private was, after being out in the saddle for two days, brought in laboring under active delirium, which continued for two days. During the evening of the second day he entered his office, with a knife in one hand and his penis in the other, saying that he had severed the root of all evil. Next morning he broke out with confluent small-pox, and soon died. Had the disease been recognized in the beginning, bloodletting may have saved the patient.

Vaccination during pregnancy was justifiable under certain circumstances. During the war a case of confluent small-pox developed itself at his boarding-house. The lady of the house was eight months advanced in pregnancy, and had not been vaccinated for fourteen years. The patient was removed and the lady vaccinated. The effects were very grave, but passed away in two weeks. The child was born in due time, having two well-marked pits on its lips.

Dr. Taylor would mention, that during a five years' residence

in China as a missionary, he had seen a good deal of the disease. It had, doubtless, prevailed there centuries ago as an epidemic. The Chinese method of dealing with the disease was peculiar and interesting. In every Chinese family it was the custom, when the child was about two years old, and during a certain season, for the mother to visit a neighbor, obtain some of the virus, with which she saturated a piece of cotton. This was inserted into the nostrils of the child and permitted to remain there for a time. The child was put upon light diet, into a cool room, and enveloped to the chin with a bag. The disease soon developed itself, running a favorable course and leaving no marks. The disease never created any alarm; nor did the children so treated ever have the malady the second time. It was a rare thing to see an adult pitted. Out of millions he saw only two or three who had been marked by the disease. When he first went out, he carried a large supply of vaccine virus, hermetically sealed in glass tubes, and used it so successfully that the natives were anxious to have their children vaccinated.

Dr. Jackson would ask if there were any difference in the period of incubation? Dr. Taylor responded, saying there was none.

Dr. Jackson said that Dr. Taylor's statement corresponded with what he observed in San Francisco; but few Chinese were pitted. The period of incubation varied from eleven to fourteen days; and vaccination performed on the second or third day after infection would modify the disease. Not so on the fourth day or afterwards. He had had no opportunity of verifying this statement, but it was a noted fact.

In reference to Dr. Burdett's statement, that the disease could not be imparted before the stage of suppuration, he believed the Doctor in error. His experience taught him otherwise, and so did all the authorities with which he was acquainted. As to preventing pitting, he did not place much reliance upon anything. He had used plasters of various kinds, collodion, and a number of other things, all to no purpose. Of all remedies for

the prevention of pitting, he thought nitrate of silver the most reliable. He would mention a marked peculiarity as exemplified in a patient treated by himself. The weather being warm, he had the patient's body made bare and exposed to the light. No special treatment was adopted. The face was much pitted; other portions of the body, though equally exposed, being free from marks. He would mention a peculiar odor on rubbing up a vaccine scab, but was not confined to it, as he had noticed the same in other scabs treated in like manner. He did not fear the scab in vaccination; considered the peculiar red tinge due to the coloring matter of the blood; thought the margin of the scab different from the centre, and would use only the latter; and believed the bad effects of vaccination arose from the neglect of this precaution.

Dr. Burdett would like to have an expression of the Association as to the period of communicability. He had seen cases where the disease was not communicated till the period of suppuration.

Dr. Spilman thought the disease communicable during any stage, but more during the period of eruption.

Dr. Drye exhibited a patient with a cancerous affection upon upper part of thorax.

Puerperal Eclampsia.—Dr. Dunlap read a paper upon this disease, with cases in point. The following is a synopsis:

The disease is terrible and terrific, the most dangerous to which parturient women are liable. It exposes the patient to the greatest risk, and carries alarm and dismay among the bystanders. The disease is fortunately rare. Velpeau did not meet with a single case in a thousand labors; Mad. Lachapelle, Merriman, Syan, and others, had one case in about two hundred deliveries; the principal accoucheurs of England observed one case in four hundred and eighty-five deliveries, and Cazeaux met with three in two thousand. A very large percentage of these were in primiparous women.

There are various opinions as to cause and pathology, and consequently a varied treatment. Meigs mantains that the dis-

ease is dependent upon the puerperal state, which ought to be terminated as soon as possible, when the convulsions will cease. Hodge attributes the cause to "inordinate excitement" superinduced by pregnancy or during labor. Cazeaux says eclamptic patients have albuminuria, but albuminuria does not necessarily give rise to convulsions. According to the most eminent authors, one woman out of every four or five suffering from albuminuria, has eclampsia. It is now the received opinion that the disease is due to uræmic poisoning; but it must be remembered that albumen increases in the urine during the convulsion, and decreases after it.

He had seen but four cases—two in his own practice, and two in consultation.

Case 1.—Primipara; aet. 20 years; stout and robust; six months advanced in pregnancy; had a convulsion, which was followed by the second; pulse full and strong; bled her freely, which, on the approach of the third convulsion, was repeated. After this a full dose of opium was given; labor induced, and a dead child delivered. Convulsions continued, and patient died.

Case 2.—Primipara; aet. 16 years; health good; had a convulsion just as delivery took place; another one before placenta came away; pulse full and strong; free blood-letting, followed by a dose of opium. Recovered promptly.

Case 3.—Multipara; aet. 30 years; six months advanced in pregnancy; was called to see her in consultation; she was having violent convulsions every half hour; gave chloroform and brought on labor. A dead fœtus was born; convulsions continued; death took place in twenty-four hours.

Case 4.—Mrs. E., aet. 47 years; mother of eleven children; six years since birth of last child; general health good. During last month of pregnancy, had acid eructations and vomiting; was much swollen, and at times partially paralyzed; had no œdema of limbs or puffiness of eyelids; kidneys acted freely; bowels were kept open by an occasional laxative. Labor came on night of the 18th January, 1872; progressed regu-

larly, and at 4 A. M. was delivered of a female child weighing six pounds. Had no trouble till afternoon, when she complained of pain in stomach, for which she received a small portion of morphia. Had a convulsion at 4 P. M.; a second one in 20 minutes, a third at 6:30, when I saw her. This one lasted about two minutes, leaving her semi-comatose; pulse 90, small, irregular; breathing heavy; abdomen distended; womb two or three times as large as it should be, hard to the touch, but not tender; made a vaginal examination, found no clots. Injected hypodermically one-third grain morphia; applied turpentine and whisky to abdomen, mustard to extremities and over spinal column. Dr. Pawling arrived at 7 P. M.; and as she was becoming restless, one-fourth grain morphia was injected at 8:30. Had a fourth convulsion at 10 P. M.; one-quarter grain of morphia by the mouth. A fifth convulsion at 11:30 P. M.; one-quarter grain of morphia hypodermically; had taken one and a half grains morphia; condition becoming more serious; respiration slow and sonorous. Dr. Jackson and myself saw her at 1 A. M.; patient unconscious; pulse 105; respiration 3½ per minute; pupils contracted; abdomen full; uterus hard and much enlarged. Attempted to give one grain ext. belladonna, most of which was lost. At 3 A. M. administered an enema containing five grains quinine, one grain ext. belladon., and one oz. whisky. At this time her respirations were three and a fraction per minute, and pulse 130. At 9:30 A. M. respiration fuller and freer; pulse 120; skin acting well; pupils contracted and insensible to light; more easily roused; urine drawn off and found to contain albumen in abundance. Ordered beef-essence and soup every three hours. At 11:30 A. M. she roused up as if from a profound sleep; rational; breathing better; pulse 80 and regular. At 4 P. M. she was rational; pulse 80; respiration 16 per minute; bowels distended; uterus hard; discharge, which had ceased during convulsions, returned, and quite abundant. Restleseness to be controlled by laudanum; had no more convulsions. On the fifth day after this attack she had a chill, followed by fever and perspiration, which was

promptly arrested by quinine. Soon afterwards her bowels became irritable, passing blood and mucus. Ordered opiates to quiet pain, and enemata to move bowels. A large quantity of fæcal matter was discharged, the flatulence passed off, and the womb gradually assumed its natural size. She now continued to improve, and was able to sit up in two weeks.

Dr. Jackson would call attention to a paper by Dr. Carson, revolutionizing and throwing new light upon the pathology of puerperal eclampsia.

Dr. Price read a paper entitled "Varicose Veins." Two cases successfully treated with injections of persulphate of iron.

Dr. Jackson said that the great fear of producing a coägulum of blood in the vein was that a portion might become detached, lodging in the heart. He would prefer to operate according to Dr. Levis, who had performed a number of operations, and all successfully.

Dr. Dunlap would give the result of a case he had reported at a previous meeting, who suffered from uterine hæmorrhage repeated every seventh day. Upon the administration of quinine the hæmorrhage ceased and did well, being delivered of an eight months' child.

Fracture of Parietal Bone.—Dr. McKee presented the patient, and gave the following account:

A. C., aged forty-five years, a man of good constitution and temperate habits. While passing along a cross-street January 2, 1868, was struck on the head by a stone weighing several pounds, and thrown from an adjoining garden. He was knocked insensible by the blow, but soon recovered, and walked home, a distance of several hundred yards. He saw the patient a few minutes afterwards. There were marked convulsive movements on right side of body, and particularly of face; also a fracture of parietal bone about an inch from the sagittal suture and midway between the parietal and the occipital bone, with a depression nearly circular in shape and an inch in diameter. Upon consultation with Dr. Jackson, it was decided to give an anodyne, and as the convulsive movements were subsiding, watch

the case, declining to trephine till symptoms arose that demanded it.

The next morning found him quite comfortable, the convulsive movement having ceased entirely. He continued to do well, was going about in a few days, and has experienced no serious results from the injury as yet.

Deceased Members.—Dr. Pawling, of Danville; and Dr. Welch, of Crab Orchard.

Dr. Dunlap was appointed to prepare a memorial address on the life and death of the former, and Dr. McRoberts of the latter.

Dr. Erwin, chairman of a Committee on Incorporation and Seal, reported that he had been successful in securing both.

The Association was most sumptuously feasted by the Boyle County Medical Society.

After tendering a vote to the Boyle County Medical Society for its generous hospitality, to the Odd Fellows for the use of the Hall, and to Colonel Talbot for services rendered in his legislative capacity, the Association adjourned to meet at Harrodsburg on Wednesday, 17th July, at 10 A. M., on which occasion Dr. McClellan, United States Army, will open the discussion upon *scarlatina*.

DOUBLE TWIST OF BOWELS. [Read before the Medico-Chirurgical Society of Louisville, Ky. By J. A. LARRABEE, M. D., Louisville, Ky.

Gentlemen,—I have to present you this evening with the history and clinical record of a case of more than ordinary interest; a case, fortunately for humanity, comparatively rare, and for this reason deserving attention, and illustrating the importance of careful pathological and physiological investigation in all cases, but more especially in such as are of seldom occurrence. It is a case of mechanical obstruction of the bowels. The members of this Society will remember the case which I reported about a year ago, in which the diagnosis was made sufficiently early to give some promise or faint hope from an

operation, which was not consented to. You will also remember the morbid specimen exhibted, in which 9 inches of the ileum was carried into the ascending colon, and along with it the appendix vermiformis; the death occurred on the seventh day; and that previous to death, a portion of the intestine (ileum) strangulated and gangrenous sloughed off and passed from the rectum; and that it was a case looking toward a spontaneous or natural cure. Then, as in the present case, the practical question arose in my mind, which will arise in the mind of any physician who feels his obligation to his patient, that after injections have been used as faithfully and largely as they can be with safety, purgatives and laxatives have been given until they only increase the suffering and vomiting; warm baths, opium, fomentations, poultices, and leeches have been used for the peritonitis, and besides all, if sometime without running too much risk, a short rest has been given to nature, without avail; shall the patient be let alone to die, or shall an operation, itself dangerous, be resorted to for his relief? I remember, also, the opinion of some of the excellent and learned getlemen present at that meeting with which I fully accord, "that the patient or friends being made fully aware of the condition, his arrangements with the world being made, an operation should be resorted to for his relief." In justification of this opinion, I submit to you the following case:

At an early hour in the morning of the 8th of May, I received a message to visit Mr. Wm. M. C., a highly esteemed citizen and a most excellent and worthy gentleman, aged about 45 years, and strictly temperate. At his bedside I learned the following history of his case. On the day previous, (7th inst.), he had regular stool at his habitual time in the morning, felt as well as usual, with the exception of an attack of facial neuralgia, from which he has, for years, suffered at regular intervals. At noon he ate his dinner, feeling tolerably well. After dinner he laid himself down for a short nap; upon rising from his couch after his sleep, he felt a sudden and peculiar sensation, amounting to pain, in a particular part of his abdomen. Sup-

posing he would presently feel better, he went to business, and returned to his family at night in a stooped position, and suffering considerably from the pain, which had not abated, but had gradually increased up to the present time. Still believing it to be no more than an ordinary attack of wind-colic, he relied upon domestic remedies, hot aromatics, and spiced drinks, until my visit, at which time I found him suffering considerably, with an anxious and worn countenance; and learned that he had passed a restless and sleepless night. He had vomited several times during the night the contents of the stomach, and this morning threw up some bilious matter, but had had no stool since the commencement of pain. He had taken some kind of pills, which were ejected from the stomach. Upon inspection, the abdomen was but slightly distended. The decubitus was for most of the time dorsal, but not particularly suggestive, as the limbs were often straightened out, and he would turn, with some apparent increase of pain. He pointed out to me a point of extreme tenderness, a little below and to the right of the navel. I found the tenderness circumscribed and limited to an area of about three inches; with a view to relieve pain, prevent the extension of the peritonitis, as well as possibly to relieve any spasm which might be present, I ordered full doses of morphia, with snow-ice to relieve thirst, and fomentations of laudanum and water to be constantly applied over the abdomen. Feeling positive that an obstruction of some sort existed at the point above described, and most probably in the small intestine, and hoping it might be due only to fæcal impaction, I ordered a dose of calomel to be given between the other doses. This evening I found he had suffered less, although his expression indicated pain. Has felt nausea, but no vomiting; bowels unrelieved. He has drunk a bottle of cit. of magnesia, which has been retained. Tenderness excessive; cannot bear to be touched in the spot indicated; other parts of the abdomen less tender; has passed urine twice; belches considerably; no gas escapes from the rectum. On placing the ear over the seat of obstruction, distinct gurgling is heard. Feeling no longer any doubt

as to the nature of the obstruction, and believing that I had to do with a case of ileus, due to an invagination of the intestines, believed to be not far from the head of the cæcum, I immediately commenced the use of injections, persisting until he gave evidence of pain and distention at the point of obstruction. Not a particle of fæcal matter came with any of the injections; nor did the long rectal tube encounter any in its passage. At this time his temperature was 101°; pulse 150; respiration 18 per minute. The area of tenderness was not materially increased. He was evidently feeling the effects of opium considerably; tongue dry. His intellect was perfectly clear, and when interrogated in regard to his suffering, he answered that, "although he felt somewhat benumbed by the opium, his pain was terrible beyond description;" and paroxysmal. I have said, when interrogated, that for the heroic fortitude with which he bore the most intense suffering, he must have made a lasting impression on all who visited his bedside. He vomited several times matter which, although odorous, was not particularly fæcal. During the night I had the pleasure and comfort of meeting several eminent medical gentlemen at the bedside at the request of the friends. It now became evident that he could not survive much longer, and that the further perseverence in the same course would not only prove fatal, but uselessly annoy him. After consultation in the morning with Drs. Holloway, Cummins, and Gaillard, it was decided that nothing more remained that medical skill could offer but the operation of gastrotomy. The merits of such an operation were fairly and fully placed before himself and his family, and accepted by both. His pulse was 160 per minute, and he had the stercoraceous belch. After a short time passed with his excellent pastor, he was placed upon the table. All necessary arrangements being made, his urine was drawn off with the catheter. Chloroform was administered at 8 o'clock, 42 hours after the first occurrence of pain, and 24 after beginning the treatment. Dr. Holloway, assisted by Drs. Cummins, Gaillard, and myself, commenced the operation. An

incision was made in the linea alba about six inches in length, commencing a little below the umbilicus. The small intestine, jejunum and ileum, greatly distended with gas, were taken out upon the abdomen and examined. The coils of the intestine were greatly congested and inflamed; patches of lymph were scattered over the surface, which increased as we followed the ileum downward. When near the extremity of the ileum, we found the intestine deepened in color, from cherry to mahogany; and here we came upon an anomaly which caused a little delay in the operation. Projecting from the ileum a foot or so above the cœcum and the appendix vermiformis, which was found in situ, was a substance of the size of the finger, about 3 inches in length, and feeling like a gut; it was attached to the ileum firmly, and was adherent to the abdominal walls. These adhesions were broken down. The appendage hanging from the ileum looked like a gut. A silk ligature was thrown around it near its junction with the bowel, and it was removed with the knife. I am confident that it contained fæcal matter, and it was semi-gangrenous. But a few inches below this point, we came upon a kink, a double twist of the intestine (ileum) upon itself, which was relieved by untwisting, and the gas was heard to gurgle through the constriction. The task of returning the intestine, carefully protected by warm flannels, was begun. He had now taken about two ounces of Squibb's chloroform, and had a good pulse during the manipulation of the intestine. His skin became considerably relaxed, and his countenance pale and bathed in perspiration. It was, however, momentary, and he bore the completion of the operation remarkably well. The wound was closed with sik ligatures. A bag (10 gallons) of oxygen gas, which was provided, was adjusted, and he inhaled it freely. In about five minutes from the time I first placed it to his nostrils, his skin being covered with perspiration, now became dry and warm, and he was placed comfortably in bed, with a compress and bandage applied over the abdomen. He slept quietly for an hour two, occasionally opening his eyes, and was fully conscious at noon. His voice was better than in the morn-

ing, and when I asked him "how his suffering compared with that before the operation?" He replied "that it was not comparable, as he had none of that character of pain, and felt only the soreness." Ordered him to have a grain of opium every two hours; has had a slight and interrupted singultus with belching of gas; has also vomited once.

Seven P. M. Had been a little uneasy and restless, drawing up and straightening out his limbs, but says it is not from pain, but an uncontrollable desire to move, and from distention of the stomach. His pulse was 152, tolerably fair in volume; temperature 101°; respiration 24 per minute. He took wine and beef-juice at frequent intervals during the night; had belching and hiccough several times; took the opium every two hours to alternate with five grains of quinia. At 10 P. M. I saw him. He spoke well but was restless. I gave him the opiate; he complained a great deal of the distention, particularly about the stomach, which interfered with his breathing. Loosening the bandage gave him some relief. He turned upon his side easily by his own exertions, and in this position relieved his stomach of a quantity of gas; afterwards slept quietly for about two hours. At 10, his pulse was 145; respiration 30 per minute; temperature not noted. I introduced catheter at an early hour, and withdrew a cup full of highly-colored urine. Several times during the night the pulse indicated a diminished amount of blood passing through the artery. Oxygen was breathed at intervals of an hour or half an hour for five minutes at a time. Its effect seemed to be good, always relieving the relaxed skin and restoring animal heat.

May 10, 9 A. M. Extremities were becoming cold, although hot water bottles had been used since midnight; radial pulse being hardly perceptible; could not be counted; respiration 34 per minute; temperature 103°. His intellect remained perfectly clear, although not much inclined to speak. As he was evidently dying, and likely to sink rapidly, it was deemed advisable, at the morning consultation, to inform him of his true condition, which was done through his excellent pastor. Even

now his mind was perfectly clear. The whisky and water were given often, and swallowed easily. He died a few minutes before 12 o'clock M., conscious and able to swallow fluids, also to turn upon his side unaided a few minutes before dissolution.

Sectio Cadaveris.—Notwithstanding only two and a half hours had elapsed since his death, the *rigar mortis* was most marked. The rigidity of limbs and jaws were particularly noticeable. The body was still quite warm; abdomen and epigastrium considerably distended. The rectum now contained considerable fæcal matter. The sutures in the wound were divided, and slight adhesion existed. The opening being enlarged sufficiently, the intestines were subjected to close inspection. Several (quite firm) adhesions existed between them and the anterior abdominal wall. The omentum was highly congested. Upon removing the intestinal coils from the cavity, a marked difference was noticed in color from that at the time of operation. With the exception of few *post-mortem* patches, they gave evidence of restored circulation, being everywhere of lighter color, except at or near the site of the obstruction. The site of the kink was found without difficulty, marked by fresh deposits of lymph and turgesence, although it was seen to be entirely relieved by the operation. The attachment of the extraordinary growth or diverticulum was found a little above the twist, and the ligature which was placed around it, still remained entire. Patches of dark blood, and a grangrenous or sloughy condition could be seen at this point. The twist or kink of the intestine was seen to be about eighteen inches above the ileo-cœcal valve.

The obstruction, as well as the anomalous appendage, was connected with the ileum. This out-growth was found, on removing the ligature, to be connected with the gut, with a continuation of its structure. No other cavities or organs were examined.

The questions which naturally suggest themselves upon the revelations of the post-mortem, are:

1st. At what time did this little appendage or diverticulum, evidently containing fæcal matter at the time it was removed,

and now known to be connected with the intestine, become adherent to the abdominal walls?

2d. What had the growth, whose adhesion to the abdominal wall was broken up during the operation, to do with causing the double twist in the intestine, which was so well relieved by the operation?

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

Art. I.—Multiple Cerebro-Spinal Sclerosis. By John L. Cook, M. D., Elizabethtown, Ky.

A disease has lately fallen under my observation whose rarity and obscurity have surrounded it with peculiar interest, and believing its history would doubtless be instructive and acceptable to the readers of your Journal, I send it to you for publication, if you judge proper to give it a place in its pages.

Professor Hammond, in his valuable work, says he has seen nine cases only; and it is to him that the Profession is indebted for a clear and succinct description of the disease.

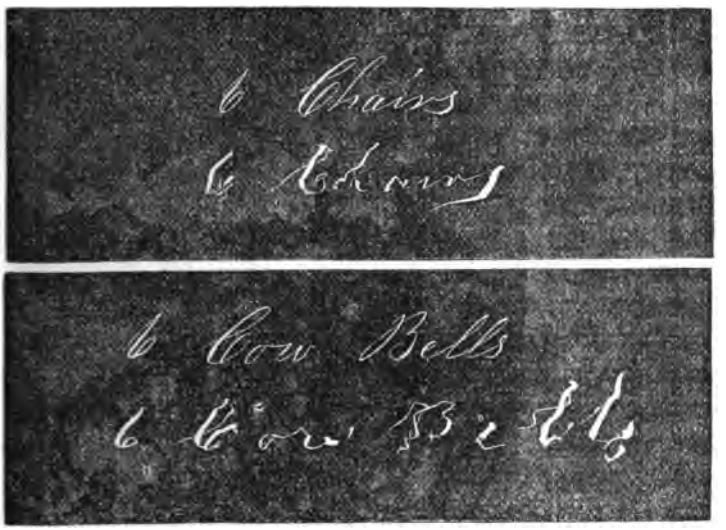
On the 3d of April, 1872, I visited Mr. B. D. C., aged forty-nine years, tanner, who had consulted me a few days previous for paralysis and tremor, and from him I obtained the following history: Has suffered for twenty years with frequent attacks of headache and vertigo; about seventeen years ago had a congestive chill, accompanied with severe pain in the head, and was unconscious for three days, his physician diagnosing the case inflammation of the brain.

The head symptoms have been growing worse since that time, and two years subsequent to the event alluded to, while working at his trade, head downward, became suddenly blind, and experienced a sensation, which, to use his own words, "seemed as if water was running over his head."

Both soon passed away, leaving him apparently well, with the exception of headache and occasionally vertigo, which would

invariably be followed with tremor that subsided in a day or two thereafter.

For several years has had tremor associated with voluntary motion; there never has been any agitation whilst remaining in a quiet state. Paralysis has been gradually progressing for eight or ten years, but made its appearance at least seven years after he first felt the tremor. He walks with a cane; has a peculiar jerking gait, with body inclined forward. Festination noticed, which he says is to prevent him falling on his face; walks up hill much better than down. Articulation difficult, sometimes experiences a sensation of constriction around the cranium. Slight mystagmus, diplopia and amblyopia, especially after cephalalgia, with which he is now affected every ten days, and moreover is "sure to be worse after these spells." No special derangement in the urinary apparatus; bowels regular, but nausea now and then; can stand on his feet with closed eyes, but unless they are open misses the end of his nose half an inch on attempting to touch it with his finger. Writes with great difficulty. Below see difference between penmanship now and seven years ago; until a short time since right hand was comparatively exempt.



April 7th, 1872.

Treatment.—I prescribed one grain chloride of barium, and one drachm of the tincture of hyosciamus three times per diem. After treatment during a month there seems to be slight improvement; no headache, save at one time after excessive work in the hot sun.

Commentary.—I diagnosed the case, multiple cerebro-spinal sclerosis. Prognosis quite unfavorable, but as the above mode of treatment cured a patient in the hands of Professor Hammond, and in others held the disease in abeyance, we are not without hope that medicines may have a curative influence on the malady. Prof. Hammond also strongly recommends electricity, but the patient says he has used it without any discoverable benefit. It is manifest that the original seat of the injury was in the cerebral ganglia, because tremor existed prior to paralysis. The evidence that the spinal cord is involved is shown in the fact that shaking takes place with voluntary motion only.

The gentleman states that hitherto none of his medical attendants have told him his ailment, and he has expended a small fortune in vain consultation with most excellent physicians. This is the only case of its character which I have ever encountered; and am unaware of a report of the disease having been heretofore made in any of the medical journals of the State.

Since writing the foregoing, inquiry develops the fact of the patient having, in early life, received upon the head, a severe blow from the beam of a cider press, which prostrated him, causing insensibility for half an hour or more.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

Puerperal Convulsion.

Smyrna, Tenn., 1872.

Dr. E. S. Gaillard:

Dear Sir,—I was called up in great haste at 4 o'clock P. M., April 24, 1872, to see Mrs. G. in labor with her first child. Found her at half past 4 o'clock in a deeply comatose state, having had four or five very severe spasms in rapid succession. Her face was very much swollen and discolored, eyes protruded and tongue badly lacerated with her teeth.

History.—About two weeks previous she had a severe vomiting spell, with more or less headache since that time; and although of a spare and delicate form, had become quite fleshy and plethoric. Bowels sluggish, consequent upon bilious derangement. Having had no medical advice, except from her old lady friends, who told her to "eat hearty and take plenty of exercise."

I give these particulars in regard to the case, believing if Mrs. G. had been properly treated with bleeding, mercurials and quinine, she in all probability would have escaped by far the worst attack of puerperal convulsion I have ever seen in a practice of more than twenty years.

She was taken with severe bilious vomiting about 3 o'clock, not more than half an hour before the spasms set in. The waters had broken with the first fit, although the os uteri had dilated only sufficient to admit the point of the fore finger. Presentation all right. I was informed that she had aroused up after each fit; except this last one, and they thought she was sleeping soundly, etc. It was coma profound. I had her placed on a small low bed, in the middle of the room; corded her arm, and proceeded to bleed her. The blood ran slowly at first; but the stream mounted up finely directly, and everything seemed more favorable, until just before we got through with

the bleeding the spasms returned again. I let the blood continue to flow, and commenced to give chloroform by inhalation immediately; after a few minutes the chloroform began to take effect, and the pulse to loose its force. I then stopped the bleeding (we had taken four pints) and continued the chloroform, which had its full effect in a short time. The spasm ceased at once without the heavy, stertorous breathing that had followed the last fit. It was just now 5 o'clock. I kept her under the influence of the anæsthesia slightly until 7 o'clock. She then came to herself, knew me for the first time; and drank water freely. I had a bladder filled with pounded ice kept about her head most of the time for several hours. Labor set in finely and progressed in a natural way all the forenoon. The friends and relatives became quite cheerful, and every one's face wore a decidedly cherful aspect.

At 10 A. M. she vomited again a large quantity of dark green fluid, often called bile, which to me always indicates great gastric irritation; and if not arrested soon, ends in gastro-enteritis. Gave her one-third grain of sulph. morphia, and ice as freely as she would take it; also gave chloroform a short time. Eleven o'clock patient comfortable, and labor progressing very well. About this time Dr. James S. Charlton, who had been sent for early in the morning, came in to assist me in the case, if necessary. I had sent for my instruments early in the day; but upon consultation we thought it best not to use them yet, but to wait and trust to a natural delivery, as every symptom seemed so favorable. Twelve o'clock labor-pains getting hard and forcing, head of child well down at the lower strait, and child had been felt to move a short time previous. At half past 12, during a hard pain, the spasms returned. Gave chloroform freely; had patient turned across the bed, and applied the forceps at once. The child being large and the perineum very resisting, it took three hard pains, with all the force I could safely make, to bring the child out. The child followed at the next pain. Fourchette slightly lacerated. The child was dead. Dr. Charlton delivered the after-birth; the

uterus contracting finely. It was now about 1 o'clock. We had our patient put nicely to bed, while she was still unconscious, and as she had complained frequently through the day of great soreness in the region of the uterus, we applied to the lower part of her abdomen a flannel saturated with tinct. camphor six parts, and spirits turpentine one part; and a bandage well-adjusted, bound tightly over the flannel. Let her now come gradually from under the influence of the chloroform. She rested well through the forepart of the evening, until about 4 o'clock, when the spasms returned with great violence again. We had to keep a soft stick between her teeth all the time for nearly an hour, as she did not get under the influence of the chloroform as readily as she had done before, but as soon as anæsthesia was produced, the spasm ceased. The fits, in this case, were as sudden and as violent as any fit of epilepsy I ever saw. We now gave, as soon as our patient could swallow, sulph. morphia one-third grain, and calomel Eng. eight grains. In an hour, say at 6 o'clock P. M., patient was sleeping finely. She rested well through the night. I left at daylight on the morning of the 25th, having directed an enema to move the bowels through the day. Returned late in the evening; bowels had moved well. Left three morphine powders, quarter of a grain each, one to be given each night at bedtime; and ten grains of quinine, to be given each morning for three mornings.

I visited Mrs. G. on the 26th and 27th; still doing well. She had no recollection of anything that had taken place. Called on the 30th; skin soft, with a tendency to night-sweats. Left mur. tinct. of iron to be given ten to twelve drops, in water, three times a day, before meals. One of her lower front teeth was so much loosened by the biting upon the stick that it had to be taken out.

I would never depend too much upon bloodletting in puerperal convulsions, just enough to fully unloose the circulation. Chloroform and the forceps, with a decided opiate, are my chief remedies in this awful disease. J. W. Davis, M. D.

DEATH FROM POISONING BY "SORREL" (RUMEX ACETOSA).

CAMERON, MILAM CO., TEXAS, 1872.

Dr. E. S. Gaillard:

Dear Sir,—A few days ago I was called, about 5 o'clock P. M., to see a boy, aged 6 years, and found him insensible to all surrounding objects, screaming frequently, and in the intervals between his screams, moaning incessantly. Pulse natural; temperature normal; countenance pale; pupils largely dilated; incessant and violent jactitation, frequently curving the body till it was supported by the head and heels alone. There were frequent efforts to vomit, but nothing but a little froth was discharged. Auscultation and percussion indicated entire soundness of lungs. Abdomen, when first seen, was soft and not at all distended or tender on pressure. Reasoning by exclusion, I concluded that the cause of all this disturbance must be in the stomach and bowels, although I could at first elicit no information that enlightened me as to this cause. I asked his parents if he could possibly have gotten anything poisonous to eat, but they thought it entirely improbable. He had complained first on the evening before my visit, and they had made several efforts on that morning to give him medicine, castor oil among them, but he had not retained, or even swallowed it, on account of irritability of stomach. As his teeth were firmly clenched, I immediately administered morphine hypodermically, and caused him to inhale chloroform till he became quiet, though still entirely insensible, and these I repeated as often as was necessary to keep him quiet. I had large quantities of warm soap-suds thrown up the rectum, but no fæcal matter could be got away. So soon as the jaws became sufficiently relaxed by the chloroform, I administered syrup of ipecac with a view to evacuate the stomach, having no stomach pump; and repeated it frequently until nearly half an ounce was given, but it had no effect. About 7 o'clock the abdomen began to be distended, and became enormously so before death, which occurred about 9½ o'clock. About 7 o'clock his skin became covered with a profuse clammy perspiration, but was abnormally cool, and the

pulse was still natural. The face was then flushed; pupils still dilated. The florid color of the face grew gradually more and more livid till death. An hour or two before his death, a playmate reported that he had, on the preceding evening, eaten "a good deal of sheep sorrel." This at once satisfied me as to the cause of death, although oxalic acid is said by writers on toxicology to be very speedy in its effects. In this case it had been 24 hours before his parents became sufficiently alarmed to call a physician, although he had been complaining, and his stomach very irritable with frequent vomiting, during the time. No autopsy was allowed, though solicited.

D. W. Brodnax, M. D.

Coushalta, Red River, La., 1872.

Dr. E. S. Gaillard:

I was called on the 16th of March, Saturday night, half past 10 o'clock P. M., to see a man thirty-five years of age, who had just received a penetrating wound of the abdomen, cutting through the muscles and other structures composing the abdominal walls, puncturing at the same time a small portion of the small intestine. I found him, on my arrival, on his feet, very much alarmed, expressing his inability to lie or even sit down on account of the pain experienced by the slightest movement of his body in any direction. I therefore deemed it advisable to administer an anæsthetic in this position, and accordingly applied a handkerchief, saturated with chloroform and ether to his nose, and after a few deep inhalations, the pain was sufficiently alleviated for me to get him on his back, when I discovered the wounded portion of the intestine, with its mesentery protruding through the wound thus made. The protruding mass being very large, owing to the fact that the patient had taken a hearty breakfast early in the morning, and also a heavy dinner at 2 o'clock P. M. preceding the accident. In consequence of this condition, much inconvenience was expected in reducing or replacing the protruding mass.

An orifice of an inch at least was made in the gut, and the

chyle contained therein flowed freely, and was encouraged by gentle and careful manipulation, in order to reduce the size of the protruding mass, get rid of as much of this *ingesta* as possible, and also to supersede the necessity of enlarging the size of the external opening. I now applied the suture, with a fine round needle, armed with sewing silk, in such a way that the peritoneal surfaces were brought into immediate contact (Glover's stitch). Particular care was taken that the needle should only penetrate the peritoneal and cellular coats, no muscular tissue being taken up in it, the ends of the silk were immediately cut short close to the knot, hoping the suture would eventually become covered with lymph, and find its way into the inside of the gut by ulcerating through the muscular and mucous coats.

The operation being thus closed, and patient partially under the influence of the anæsthetic, the protruding portion of the intestine was reduced with but little difficulty, having been previously cleansed by gentle sponging with warm water.

Three or four sutures being now applied to the internal wound, I introduced one-fourth of a grain of sulph. morphia hypodermically, and left the patient till next morning; when I again visited him, accompanied by my partner, Dr. Guthrie, and found him doing well, comparatively speaking; pulse somewhat accelerated, skin a little warmer than natural, and some tympanitis. The propriety of administering opium to the extent of locking up his bowels completely was discussed, and also the *danger* of giving a dose of castor oil duly considered.

In consequence of the fact that he had that day *taken two full meals* of bacon, bread, hominy, milk, etc., we deemed it advisable to *risk* a small dose of castor oil, and a mild dose of this gentle aperient was accordingly given, and he perhaps now owes his life to the *inaction* of this dose.

We kept him profoundly quiet with opium until the 20th, when we commenced the use of the syringe; evacuations were now solicited by oleaginous injections, thrown into the rectum, and after the use of several a copious discharge was obtained,

when the tympanitic distension gradually subsided, and everything connected with the patient and his wound progressed as favorably as could be desired. Perfect rest and quiet were enjoined, and an occasional dose of opium to counteract the peristaltic movements of his bowels was directed. No food allowed except diluted milk, rice-water, etc., in moderate allowance.

25th.—He is now doing remarkably well, and has been since the accident, with the exception of an intercurrent attack of intermittent fever, which yielded readily to treatment, with quinine, etc.

April 1st.—Patient still improving, is able to sit up in bed. So far as the wound is concerned, I consider him entirely out of danger.

April 8th.—Dismissed the case; he is rapidly improving and regaining his health, strength, etc.

The remarkable feature in this case, is that there was so little constitutional disturbance connected with it. I attribute this, in a great measure, to the quantity of ingesta that was allowed and encouraged to escape through the wound in the gut.

C. T. Coleman, M. D.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

A Treatise on the Diseases of Children. By J. Lewis Smith, M. D., Physician to the Infants' Hospital, New York, Professor in Bellevue Hospital Medical College, etc. Philadelphia: Henry C. Lea. 1872.

This is the second edition of this work. The first edition was reviewed at unusual length in this Journal, and there is consequently but little necessity to do more than call the attention of physicians to the fact, that the popularity of the work has been such as to require a second edition of it. The first edition was justly commended, and it is proper to say that there

is, with this new edition, increased reason for commendation. Much of the work has been re-written and very much added to the value, as well as to the bulk of the volume. The additions have been chiefly the chapters upon rachitis, tuberculosis, scrofula, intermittent, remittent, and typhoid fevers, chorea, paralysis, etc. The author has also appended many formulæ, which he thinks will be useful and suggestive. This is the least valuable portion of the volume, as nothing is more to be deprecated than the use of fixed formulæ at the bedside. Many think differently; that a disease is an entity, fixed, uniform, and unvarying, and that the physician can adapt a prescription to such disease, very much as a bootmaker adjusts a peculiarly constructed boot to each peculiar configuration of foot. The medical world has always held antagonistic opinions upon this matter of prescriptions, and perhaps will continue to do so. Those who believe that a prescription can be adapted to each disease, as a wooden pin may be fitted to an auger-hole and driven home, will attach some value (at least) to the prescriptions furnished by the author, but those who believe that prescriptions should be made to meet, from day to day, the indications presented by series of pathological changes will prefer to discard the author's pill-board and mortar record, and rely chiefly upon their own compositions for the proper management of the pathological conditions which they may trace out at the bedside.

One is often asked what is the best work on the diseases of children, and the reply may be safely made, that the volume here noticed is perhaps the best single guide that can be obtained in this country. It is very comprehensive; the greater portion of the original views presented are based upon clinical observation and post-mortem examinations; the pathology is a fair reflex of this portion of medical science as accepted at the present day; the therapeutics are judicious and such as are sustained by the best authorities. Hygienic and dietetic management are very materially relied upon in the treatment of almost all of the diseases mentioned.

The chief objection to this work and to most others devoted to a presentation of the diseases of children is, that it is too voluminous. Not that the author is prolix or tedious, but that there are too many subjects presented. The judicious thinker is unable to understand why in a work on the "diseases of children," the author is to devote a portion of his volume to the examination of so many diseases which do not specifically or specially appertain to children. It is true that children are prone to all of the diseases which he may mention; to almost all of the diseases which afflict adult humanity; but these are not, as the author claims, "diseases of children;" they are maladies affecting children in common with those of mature growth; and as long as these diseases are considered at length in every respectable work on the practice of medicine, one fails to realize why treatises upon them are to be aggregated in a separate volume and this volume to be regarded as a work specifically devoted to the examination of infantile disorders. One is willing to admit, that a work devoted to an elucidation of the "diseases of children," should contain proper chapters upon the mortality of early life; upon lactation and its disorders; upon weaning and artificial feeding; verminology; dentition; rachitis; conjunctival troubles originating from uterine or vaginal causes, etc., etc.; but why in a work on "diseases of children" one is to include all of the specific and visceral inflammations; the idiopathic, exanthematous and symptomatic fevers; the blood poisons; the general neuroses, etc., it is really impossible to imagine. This is an evil; it is an evil as prejudicial to the author as to the medical public. It injures the author, because it limits the sale of his work, diminishing his usefulness and reputation; and it injures the public, because thousands of physicians would secure the special knowledge to be found in such volumes, did they not learn from experience that in the purchase of most of these volumes, they pay heavily to obtain information which they already possess in their works on the practice of medicine, and that they gain in addition but little indeed. It is true that infancy modifies pneumonia, bron-

chitis, the eruptive fevers, etc., but does not old age do likewise? Does not every period of life induce its peculiar effect; and if this be the case, (and it is the case), would it not be equally rational and proper to issue works on the "diseases of old age," on the "diseases of adult life," etc., and present in these works (as are presented in works on the "diseases of children,") long dissertations on diseases which are treated in a masterly manner in works on the practice of medicine? It is really this error which limits so materially the sale of works on the diseases of children. What the Profession really very much desires is a number of manuals on the diseases, disorders, morbid conditions, etc., peculiar to children. These volumes would be small necessarily, they would cost but little, and would be purchased by almost every practitioner. As it is, the great majority of physicians do not own one work on the diseases of children. If they purchase one, they discover that the greater portion of it may be found in most of the reputable authorities on the practice of medicine, and that the remainder is so small and so comparatively valueless as to induce only disappointment and regret.

These criticisms are of course not addressed specifically to the volume under review, but the notice of this volume furnishes a convenient opportunity for offering objections to be urged against such volumes, and for suggesting that the real want of the Profession is a volume on diseases peculiar to children; and that this want be fully and efficiently supplied.

Dr. Smith's work is very commendable, and if one wishes to purchase what is probably the best American volume on the so-called "Diseases of Children," this work is safely to be recommended. Mr. Lea has issued it in an excellent manner. Its cost will be not more than four or five dollars.

Dr. Rigby's Obstetric Memoranda. By Alfred Meadows, M. D. Fourth Edition Revised. Philadelphia: Lindsay & Blakiston. 1872.

It is customary to say, in noticing all small manuals, that they are objectionable, from the fact that they present chiefly

what every one knows, and fail to present what every one wishes to know; that they are practical illustrations of the truth of Pope's teaching, that a little knowledge is a dangerous thing. These old objections are very plausible, very familiar, and apparently reasonable, but they are based upon a fallacy; the fallacy that the major portion of practitioners are really in possession of the elementary knowledge presented in these little volumes. The fact is (however distasteful it may be to read and acknowledge it) that there are comparatively few who really know availably and well what may be quickly learned in manuals; and as long as this is the truth, all who wish to learn quickly, and must learn quickly facts to be immediately available, have either to acquire such facts where they are concisely set forth, or they must go on their mission of humiliation and disgrace to themselves, and of danger and disaster to their patients. The fact is, it is very much to the interest of the secular public that manuals should be owned by all of their family physicians; and if the secular public bought such volumes and had them immediately available for their professional advisers, there are many indeed now dead who would now be rejoicing along the pathway of life; many of the familiar resolutions and whereases about "the all-wise dispensations of Providence," so protective to the physician and so consoling to the family afflicted, would never have sadly taxed the scholarship of memorial committees, or filled unread portions of the daily Press. Many will say this is monstrous, but there is a sad deal in the truth which is monstrous, and what is here written is, to a very sad extent, the truth. Many a manual has saved many a life. Many a practitioner has consulted a manual and saved a life, or facilitated a recovery, or averted a danger, when he could, not in the emergency, have exhumed from systematic treatises those precious gems of truth, whose possession secured for his patients such beneficent results. If one is accomplished professionally, manuals are comparatively useless and valueless; but to those who are not thus fortunate, manuals are very precious helps in time of trouble; valuable indeed to the bewildered

Æsculapian who cudgels his brain in vain; but more valuable to the trusting supporter of professional mediocrity who, without such aid timely afforded to his physician, would soon form an unhappy text for illustrating the inscrutable dispensations of Providence. The theme is inviting, and imagination pictures scenes pregnant with all imaginable lessons, but no manual deserves as much space as has been accorded to this one. It is sufficient to say that it is valuable; that it imparts the lessons of a great master, amplified by the experiences of his accomplished admirer and friend; that it is very brief; well written; costing very litttle; well issued, and as desirable and useful as any of the manuals to be found in the library. Its lessons in connection with the accidents of pregnancy; with natural, unnatural and complex parturition; with the forceps, and puerperal diseases will be found very useful and reliable. Many works of great pretension teach less.

It is a small duodecimo of 95 pages, and may with ease be carried in the side-pocket by any one; provided there be any one who, when called in obstetric emergencies, is not prepared to acquit himself with safety to the patient and with distinction to his profession. It must be admitted that there are quite a number of such unfortunates in the Profession. To be candid, the number is large enough to exhaust the largest edition of any manual published. They would all do well to arm themselves with those convenient remembrancers; the manuals. Appended to this little volume are many familiar and excellent formulæ.

PHYSIOLOGY OF THE SOUL AND INSTINCT, as Distinguished from Materialism. By MARTIN PAINE, A. M., M. D., LLD., etc. New York: Harper & Bros. 1872.

This work is an octavo of 700 pages. It evinces a herculean amount of labor; profound knowledge; thorough scholarship; vast scientific attainment; astonishing comprehensiveness; candor as well as earnestness in study and authorship. Dr. Paine is too well known to require any introduction. He has written several excellent works; is an old and experienced teacher; a

member of a large number of foreign and home scientific bodies, and a scientist of acknowledged wisdom and wide research. Darwin, Huxley, materialists of all classes, and all who do not accept literally the Mosaic record, are attacked without mercy. This work is most excellent.

A Treatise on Diseases of the Bones. By Thomas M. Markoe, M. D., Prof. Surg. College Phys. and Surg. New York: D. Appleton & Co. 1872.

This work comprises the substance of the lectures of this teacher. It is of great value, and will be widely welcomed. The author has enjoyed rare opportunities for a study of his subject, and these have been fully improved. Candid, conscientious, judicious and accomplished as a surgeon, he exemplifies all of these rare traits as an author. His work is unqualifiedly commended.

Vienna Hospital Treatment of Venereal Diseases. By M. H. Henry, M. D. New York: William Wood & Co. 1872.

One may judge of the extreme value of this octavo of 30 pages when he learns that it embodies the treatment adopted in the largest venereal hospital in the world. There is to be gained in its pages the vast treasures of knowledge which Von Sigmund has acquired in years of patient and brilliant research. It is a work of rare value.

Catalogue of the Library of the Surgeon General's Office U. S. A., with an Alphabetical Index of Subjects. 1872.

This library in 1860 numbered 350 volumes; it now numbers nearly 14,000. It embraces works of great value, some of them rare; most of them standard and classic authorities. Most of the American medical journals are purchased and preserved, and will form of themselves a mirror of contemporaneous science. The volume is one of real beauty, and is a model of neatness, efficiency and care. It is a very large double-column octavo of 454 pages. It is an acquisition to any library.

CHRISTIAN OBSERVER, (Richmond, Va., and Louisville, Ky). By A. & F. B. CONVERSE, D. D.

This is one of the oldest exchanges on the list. It is a very valuable eight-page newspaper; partly religious and partly secular, each department being separate. It is an epitome of religious and literary information. Papers, letters, reviews, news, miscellaneous matter, etc. Its venerable founder and his son manifest rare fitness for their work, and have achieved success, where most laborers would have suffered disaster. Its price is remarkably low; only $3. Subscriptions sent to this office will be carefully forwarded.

TRANSACTIONS OF THE ILLINOIS STATE MEDICAL SOCIETY FOR 1871.

This volume has just been received. As it is time to receive the Transactions of this Society for 1872, proper notice will be deferred for a period, unless the present Publishing Committee, with similar Rip Van Winkleism, keep the medical public waiting another year before their nap is visibly terminated. Should they evince this unhappy spirit, their predecessors will be formally welcomed, and interrogated as to the professional feelings induced by their early and protracted hibernation.

TABLE I—MORTALITY OF THE UNITED STATES (by States and Territories), with Distinction of Sex and Percentage of Deaths to Population, as given by the Census respectively of 1850, 1860, and 1870.

This pamphlet has been sufficiently examined to show that the ultimate work will be one of much value. Criticism is forestalled by a candid and commendable indication of those elements in the work which would induce unfavorable notice. The spirit actuating those who are working upon the forthcoming volume is praiseworthy, and such as will commend them and their labors to general confidence and respect.

ANNUAL REPORT OF QUARANTINE OPERATIONS ON THE COAST OF SOUTH CAROLINA, for the year ending October 31, 1871. By ROBT. LEBBY, M. D., Health Officer.

This pamphlet has been carefully examined. It reveals an

important truth; that Charleston is actually in the yellow fever zone, and that the most rigid quarantine could not, during the past year, protect her from the scourge of yellow fever. While this unfortunate fact does not diminish the necessity for a rigorous quarantine hereafter to prevent the importation of fever, it clearly proves that the most rigid quarantine is insufficient to impart the welcome feeling of security which has been hitherto felt by the inhabitants of that city. With her entire port closed by quarantine, the yellow fever has been developed in her midst. The report is carefully prepared, and contains many excellent recommendations from its author; the experienced and faithful Health Officer of the South Carolina coast.

CHEMICAL AND PHARMACEUTICAL.

'Diruit, ædificat, mutat."---Hor.

A Medical Survey of the Trial of Mrs. E. G. Wharton on the Charge of Poisoning Gen. W. S. Ketchum. By S. C. Chew, M. D., Professor of Materia Medica and Clinical Medicine in the University of Maryland, Baltimore, Md.

The object of the present article is to make a plain statement of those facts connected with the recent trial at Annapolis, which are likely to be of interest to the readers of this Journal.

This is a debt which we feel to be due to them, and which we propose to discharge in consequence of the ample opportunities afforded us for observing every stage of the proceedings.

For certain reasons we had intended postponing our remarks for a later number, but the appearance in the April issue of the "American Journal of the Medical Sciences" of a review of the trial, which tends both by its statements and its omissions to mislead the mind of the Profession, justifies us, we believe, in presenting our view of the case without further delay.

The questions involved in this discussion are of universal

professional interest, such as may present themselves in the experience of any medical man; they are questions of diagnosis, of treatment, and, most important of all, of moral duty.

We shall endeavor to discuss them in a spirit free from passion, or from the influence of any personal consideration, but with the desire of vindicating the Profession, of defending opinions naturally and conscientiously formed, and of throwing upon the whole subject the cold, clear light of scientific truth. We seek no personal controversy, nor is it our primary object to uphold the professional reputation of any individuals who have been subjected to misrepresentation and reproach. When we consider, however, that in this trial the Profession itself has been assailed, its capabilities questioned, its methods of reasoning disparaged, and its claims to accuracy derided, then on the ground of simple duty we base the right to defend it, and with it those who were guided in their opinions by its legitimate methods.

Both within the Profession and beyond its borders misapprehensions have arisen, from the supposition that different physicians were led by the same data to opposite conclusions. On this account some of the laity have expressed the belief that medicine is not at unity with itself on most important issues; and certain members of the Profession have too hastily and upon insufficient knowledge charged the physicians most nearly concerned in the case, with giving an incorrect interpretation to facts which they observed.

An analysis of these facts and of the testimony* will show the true explanation of the difference to be this; that opinions on the one side were based upon direct personal observation, while on the other they accorded with a theory which was the offspring of imperfect acquaintance with the case.

In the discussion of this subject our opinions might be elucidated and strengthened by many facts that could be fairly ad-

* Our extracts from the testimony are taken mainly from the Report of the Trial published by the "Baltimore Gazette," and in some instances from the Report of the "Baltimore American."

duced as a part of the history of the case. But we prefer to waive as far as possible all such aid, and to take the same stand upon strictly technical grounds of diagnosis before our readers, that the physicians examined as witnesses were required to assume before the jury. This seems the fairest course, and the one most worthy of the spirit in which all scientific discussions should be conducted. Circumstantial evidence will therefore be adverted to as briefly as possible, nor will reference be made to the train of facts which were alleged to indicate a motive for the commission of the crime.

The question of guilt or innocence is entirely beyond our province, and one more fitted for the "dusky purlieus of the law," than for the *templa serrena* of science.

Investigating the case therefore as a medical problem, we shall confine ourselves to its symptoms taken in connection with such collateral circumstances as must needs be regarded in any question of diagnosis. In professional practice it constantly happens that some facts entirely apart from the phenomena of a case must be taken into account; for they are as legitimate elements in the formation of an opinion as any presented by the physical condition of the patient.

The following is a brief statement of the case which gave rise to the trial:

On the evening of Saturday, June 24, 1871, General W. S. Ketchum came from Washington to Baltimore, and between 8 and 9 o'clock took supper with the family at whose house he was staying, partaking of coffee, bread and butter, cold ham, and raspberries.

About 11 o'clock he retired, and during the night suffered apparently from cholera morbus, which compelled him to leave his room. On the following morning he arose, dressed and went out, but soon returned, complaining of feeling still unwell, and consequently remained in his room until the hour for tea, between 8 and 9 o'clock, when he took a glass of lemonade with brandy in it. During the night symptoms of cholera morbus recurred, causing him to leave his room again. On the next

day, Monday, he suffered with nausea, which increased to such a degree that about 4 P. M., Dr. P. C. Williams was summoned to visit him, and found him much prostrated, with a cool clammy skin, a rapid and feeble pulse, and vomiting repeatedly. He was directed to take two drops of creasote with half an ounce of lime water every two hours, which relieved him.

On Tuesday at 10 A. M. he was again visited by his physician, to whom he stated that he was well enough to return to Washington, and would go that day. He did not go, however, and in the evening was heard to vomit violently, shortly after taking some porter or brown stout.

On Wednesday at 10 A. M. he was found by Dr. Williams in a semi-comatose state, imperfectly conscious, with a clammy skin and a feeble pulse; the face livid, the pupils natural in size but insensitive to light; the muscles of the neck, back and lower extremities were rigid. A slight tremor passed over him when touched. When asked in a loud tone how he felt, he replied, "tolerably," and relapsed into a drowsy state. The urine was tested and found free from albumen.

About 11 A. M. 40 drops of tinct. of gelseminum were administered, which had the effect of diminishing the congestion of the face. At five minutes before 1 o'clock a dose containing two tablespoonsful of liquid was administered, and in fifteen minutes tetanic convulsions ensued; the jaws were firmly clenched, and the surface of the throat and abdomen was abraded with the finger nails. At 2 P. M. a moderate quantity of chloroform was given by inhalation. In answer to a question, as to the seat of pain, addressed to him at this time, he said, "in my stomach." Half an hour later, 30 grains of hydrate of chloral were administered without arresting the convulsions, which increased in violence until his death at 3 o'clock P. M.

On post-mortem examination, patches of redness indicative of irritation were found at various parts of the intestines. The lungs, heart, liver, kidneys, and spleen were healthy; some degree of passive congestion of the pia mater was observed, but

no further abnormal appearance, no effusion of lymph or fluid being found in the vertricles or upon the membranes of the brain. The upper part of the spinal cord was also examined to the extent of two inches, and found free from disease, excepting slight passive congestion.

The single question with which medicine was here concerned, was, whether the diagnostic points of the case were sufficiently clear and well defined to furnish ground for the opinion that death resulted from causes other than natural. It is, of course, freely admitted that to justify this opinion, something more was necessary than the exclusion of all definitely known diseases; otherwise the argument would be based upon the faulty premise that there are no conditions of natural disease except those which have been fully defined and described.

Besides excluding known diseases, it was necessary therefore in maintaining the opinion that death resulted from the presence of poison in the system, to show a resemblance between the symptoms of the case, and those which are known to be produced by poisonous agents. If this could be done, then the combination of negative and positive evidence would warrant the opinion upon strictly medical grounds that death was due to poison.

We do not use the word *opinion* here as synonymous with a definite conclusion; for that, something more was necessary. "Opinion," says Sir Matthew Hale, "is, when the assent of the understanding is so far gained by evidence of probability, that it rather inclines to one persuasion than to another, yet not altogether without a mixture of uncertainty or doubting." But that which, upon medical grounds, was only an opinion—sufficient, albeit, to justify and to demand chemical investigation—would become an assured conviction, if chemistry should establish the presence of a poisonous substance. Assuming the chemical evidence to be correct, a perfect example would be here afforded of the accuracy which medical reasoning can attain unto; an exact science setting upon its opinions the seal of certainty, and proving them incontrovertibly true. The cor-

rectness of this chemical evidence will be the subject of inquiry hereafter.

The medical opinion thus formed independently of the chemical evidence was the study of two series of phenomena, the first consisting of the symptoms presented during life; the second, of the post-mortem revelations.

Neither of these series by itself could establish this opinion; but taken in connection with each other, they justified it fully. Some symptoms in the case might have suggested various diseases, which, had they existed, would have left lesions discoverable after death; and, on the other hand, the absence of post-mortem changes is characteristic of some affections, which, however, were excluded, because the symptoms did not correspond with them. This argument, by exclusion, was challenged by the counsel for the defence, and has since been faulted by a medical expert employed by them,* as fallacious and illogical. We maintain that as a reasoning process, it is unassailable, and that to doubt its force indicates either ignorance of the first elements of logic, or a wilful attempt to discredit fair argument. The former alternative none will admit who know the acuteness and ingenuity which were exhibited in the conduct of the defence.

Professor John J. Reese, in his "Review of the Trial," quotes Professors Miles and Chew as testifying that, while they could not ascribe the death to a non-natural cause, either from the symptoms alone, or the post-mortem alone, it was nevertheless their opinion, judging from both combined, "that he did not die from natural causes;" and he asks the question: "Is the above a logical conclusion?" We reply that it is logical to the very strictest requirements of logic, as must be evident to any one desirous of seeing and presenting the truth.

But what must be thought of Professor Reese's handling of Professor Donaldson's testimony upon the same point? This

* See Review of the Trial by John J. Reese, M. D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania. Amer. Jour. Med. Sciences, April, 1872, p. 336.

witness had stated that the "*preceding history of the case*, and the absence of the characteristic post-mortem lesions, precludes the idea of cerebro-spinal meningitis;" but Professor Reese makes the argument appear inconclusive by deliberately omitting the words "the preceding history of the case."

Again, Professor Reese states that Dr. Donaldson in enumerating the symptoms of tartar-emetic poisoning as reported by authors, "makes no mention of the most prominent ones—viz., *vomiting, purging*, extreme relaxation, insensibility of the skin, and increase in the urinary secretion." Turning to the same report of Professor Donaldson's testimony to which Prof. Reese referred, we find that he used these words, "they speak of *violent vomiting, purging*, and disturbance of the cerebral functions." By what words is such manipulation of testimony to be characterized?

The medical witnesses for the State, in response to a direct question, expressed the opinion that the death resulted from causes other than natural.

This opinion was opposed by experts upon the other side on the ground that it was not supported either by the medical facts or by the chemical analysis.

Two distinct questions are thus presented for consideration, the one medical, the other chemical:

First. Did the symptoms presented during life, taken in connection with the post-mortem revelations, indicate a natural cause of death?

Secondly. If the former question be answered in the negative, was the cause of death poisoning by tartar-emetic?

The discussion of the first question may be kept within narrow limits.

Two of the medical witnesses for the defence expressed a decided belief that the cause of death was cerebro-spinal meningitis.

Professor Edward Warren testifies, "the case of General Ketchum illustrates nothing more nor less than a typical exam-

ple of that form of cerebro-spinal fever, to which the name fulminant has been so aptly given."

Dr. John R. McClurg testified upon the hypothetical case offered by the defence, "I have no hesitation in saying that death was the result of natural causes; it resembles, undoubtedly, cerebro-spinal meningitis more particularly than any other disease." "The symptoms are apparently of the same disease; all are due to cerebro-spinal meningitis."

The other witnesses for the defence, without committing themselves absolutely to this view of the case, advanced no other opinion. So far as the medical question was concerned, they spoke of cerebro-spinal meningitis as among the possible causes of death.

Professor Reese testified, "I do not wish to be understood as asserting that General Ketchum died of cerebro-spinal meningitis. I think the cause of his death obscure; but the absence of certain pathological lesions would indicate that he died from that disease."

Dr. John Morris, of Baltimore, testifying to the hypothetical case, said: "I see nothing to exclude the theory of death from a natural cause; but at the same time, I cannot venture to say what that natural cause was."

Professor Harvey L. Byrd, of the Washington University, Baltimore, testifying also to the same case, said: "In some of its features it resembles the disease known as cerebro-spinal meningitis; taken as a whole, however, it bears no identity to any disease with which I am acquainted; the symptoms in the hypothetical statement are not sufficiently connected to enable me to decide that it was a case of cerebro-spinal meningitis."

Others expressed opinions to the same effect, and some dissented from the view that tartar-emetic was the fatal agent, on the ground that the symptoms did not correspond with the effects of that substance.

We shall show that such an assertion must have been due either to want of knowledge of the history of the case, or to imperfect acquaintance with the records of toxicology.

It is not incumbent, therefore, upon those who take the State's view of the case, to disprove the existence of any other disease than cerebro-spinal meningitis; for none other was affirmed to exist.

Was cerebro-spinal meningitis present?

In support of this theory several circumstances were appealed to. The first of these was the alleged existence of an epidemic of the disease in Baltimore. In reference to this it need only be said that the records of the Health Department of the Municipal Government of this city show not one single death from this malady in 1870 or 1871. Now, granting that there may be some inaccuracies in the management of this department, (as doubtless is the case in all other cities), and granting also that some cases of the disease have occurred, it is yet certain that there could have been no such epidemic of cerebro-spinal meningitis as would involve a liability to be attacked by the disease within a few hours of one's arrival in the city. No evidence was offered of any case of the disease having occurred within half a mile of the house in which Gen. Ketchum died; and even had there been an unquestionable epidemic in that section of the city, it is utterly unreasonable to suppose that the disease would have been developed so speedily after entering the infected district. Professor Stillé has shown that troops stationed in a region of country where the malady was prevailing, have entirely escaped its attack.*

We maintain, therefore, that epidemic prevalence of this affection cannot rightfully be adduced as an argument in support of the theory of the defence. Secondly, hyperæsthesia of the skin was dwelt upon, as a symptom of the case indicative of cerebro-spinal meningitis. It is, no doubt, common enough in this disease, but we look in vain for any evidence of it in Gen. K.'s case.

Dr. Williams had stated that on laying his hand upon his patient's shoulder, a slight convulsive tremor passed over the whole body, which, however, did not occur again, even when

* Treatise on Cerebro-Spinal Meningitis, p. 96.

the General was repeatedly shaken; nor was there afterwards the least sign of exalted sensitiveness when he was moved and his hands were rubbed. Such evidence of agitation is not at all unusual in one who has been suddenly aroused, but is widely different from true hyperæsthesia, showing itself by painful response to every touch. And yet this slight convulsive tremor seems the only reason for the supposition that hyperæsthesia existed, and it was regarded as an essential point in the diagnosis. "No fact in this case, said Professor Warren in his testimony, "except that Dr. Williams found that a shiver passed over General Ketchum, when he touched him, brought me to the opinion that he had hyperæsthesia"; "the tremor observed was a sufficient indication to my mind of the presence of hyperæsthesia."

Thirdly. Suppression and retention of urine were referred to as criteria of cerebro-spinal meningitis. The existence of these symptoms seems to be assumed without evidence. Previously to Dr. Williams' second visit on Wednesday some urine had been passed, and sent out of the room.* At the second visit the introduction of a catheter showed the presence of a sufficient amount of healthy urine to make it certain that the kidneys were properly performing their function. The fact that a certain quantity of the secretion had been passed earlier in the day, proves that there was no retention; the fact that a considerable amount was subsequently drawn off by the catheter, proves with equal certainty that there was no suppression. Yet the share which these alleged symptoms bore in the construction of the theory of cerebro-spinal meningitis, is shown by Professor Warren's words, "the fact that there was suppression of the urine furnishes the data for an exact discrimination between the malady of which he actually died and the antimonial poisoning to which it is alleged that he succumbed." Or, as it is reported in the "Baltimore American," "the suppression and retention of urine show that it was cerebro-spinal meningitis; this furnishes me the culminating symptom, and proves

* See Report in the "Baltimore American."

cerebro-spinal meningitis." Thus the culminating diagnostic sign is shown to be entirely unsupported by evidence.

It may be well to remark in this connection that albuminuria is an extremely common symptom, and, according to Dr. Radcliffe,* is "perhaps invariably present" in the fulminant form of cerebro-spinal meningitis, of which it was argued that General Ketchum died; and that the examination of the urine showed not the slightest trace of it.

Fourthly. Headache was appealed to as another sign of cerebro-spinal meningitis. Let us examine Professor Reese's testimony upon this point, to show how small a foundation the alleged symptom rests upon. Drawing a comparison between General Ketchum's case and one which he had himself attended, and regarded as cerebro-spinal meningitis, this witness stated, "the symptoms were very similar to those of General Ketchum, viz., *violent pain* in the *head* and *back*," etc.

But what reason there was for importing headache into the account of General Ketchum's case, let Professor Reese's own words tell; "*I do not remember that it was here testified that he had a headache;* I got a decided impression that he had a headache from his putting his hands to his head, the throwing back of his head. He might, however, have put his hands to his head because of the pain caused by the ice-bag."

An examination of the record shows no testimony whatever in proof of this symptom, which was simply assumed on utterly insufficient grounds.

But in addition to these positive symptoms, a circumstance of a negative character was also referred to in support of the same theory. It was argued that the absence of pathological changes was another indication of cerebro-spinal meningitis. "In order to complete the picture," said Professor Warren, "and make the description perfect, it is necessary to add that the post-mortem examination gave negative results, or nearly so."† We would merely ask in this connection whether the picture

* See Reynolds' System of Medicine, vol. ii., p. 684, edition 1868.

† See report in "Baltimore American."

would have been less complete, and the description less perfect, if inflammatory changes in the membranes of the brain and cord had been present instead of absent? The question carries its own answer, and yet absence of inflammatory changes in a tissue is gravely referred to as a crowning proof of the presence of inflammation therein. It is true no doubt that cases of the fulminant form of cerebro-spinal meningitis some times terminate fatally at an early period, before time has elapsed for the occurrence of coarse changes perceptible to the unaided eye. But the irrelevancy of this fact, as applied to the case in question, is seen, when it is stated that the membranes of the brain and upper part of the cord of General Ketchum were subjected to a most careful examination with the microscope, and found to be entirely free from lesion. Professor Miles, an accomplished microscopist, whose preparations of these tissues were examined by Dr. Williams, and the present writer also, could find in them not the least evidence of incipient inflammatory changes.

Several authorities speak of the occasional absence of lymph and pus after death from cerebro-spinal meningitis; but we have yet to find one who states as the result of microscopic investigation that the membranes of the brain and cord were free from all traces of disease.

Dr. Radcliffe, in his article upon the subject in "Reynolds' System of Medicine," mentions as the "*essential anatomical characteristics* of the disease, hyperæsmia of the pia mater of the brain and spinal cord, with more or less copious subarachnoid and interstitial effusion into the meshes of the congested pia mater. . . . In fatal cases of the simple and purpuric forms, the *characteristic anatomical lesions* are almost invariably found. In the fulminant form of the disease they are often absent." *They*, that is, the characteristic lesions above enumerated, are often absent; but it is nowhere stated that there is an absence of such changes as the microscope can show.

Referring to the observations of Dr. Woodward upon the pathology of cerebro-spinal meningitis, quoted in "Aitken's

Science and Practice of Medicine," Professor Warren remarked, that "Dr. Woodward is the best microscopist in the world, and has made more discoveries with the microscope than any other person." We admit Dr. Woodward's proficiency as a microscopist, but inasmuch as in the passage referred to, he gives merely the recorded observations of others, without reference to the microscope, we do not see that his microscopical knowledge has any bearing upon the case in question. If cerebro-spinal meningitis have really existed, then, although death may have occurred too speedily for the formation of coarse structural lesions, yet we believe the microscope would surely bring to light the incipient traces of such lesions.

In support of this opinion, we refer to the Treatise of Dr. Rosenthal, of Vienna, upon "Diseases of the Nervous System," one of the ablest and most recent works upon the subject, which, however, has not yet been translated into English. In the section devoted to cerebro-spinal meningitis, after mentioning the various epidemics of the disease that have prevailed in Europe and the United States, he thus speaks of its pathology: "The true seat of purulent meningitis is the pia mater; in quite recent cases this appears *merely injected;* at later periods, on the other hand, it is dim, lustreless, and covered with a gelatinous, transparent exudation."

Perceptible active congestion is thus regarded as a constant result, which may, or may not, according to the duration of the case, be followed by the products of inflammation.

We have now seen that the prominent symptoms appealed to as indicating cerebro-spinal meningitis had absolutely no existence at all; what becomes then of the opinions founded upon their alleged presence?

The story is told of Cuivier, we believe, that when the crab was spoken of as a red fish that walks backwards, he replied, "the description is admirably correct, with the slight defects, however, that the crab is not red, it is not a fish, and it does not walk backwards." So it must be remarked that the resemblance to cerebro-spinal meningitis as shown in the case under

discussion by cutaneous hyperæsthesia, suppression and retention of urine, and headache, is somewhat marred by the facts that there was no hyperæsthesia, there was no suppression or retention of urine, and there was no headache.

Its supports thus demolished, the whole structure wrought with such elaborate detail, proves to be "the baseless fabric of a vision."

Certain other clinical phenomena, referable to the nervous system, were mentioned in illustration of the theory of the defence, such as rigidity of the muscles of the neck and convulsive movements of a tetanic character. Depending upon disturbed innervation, they are met with in cerebro-spinal meningitis, but are by no means characteristic of that disease. That they occasionally occur in the clinical history of tartar-emetic poisoning is abundantly evident; and that the possibility of a superficial examiner mistaking them for signs of idiopathic cerebro-spinal disease is shown by an interesting passage in "Virchow's Pathology and Therapeutics," edition of 1855, in which he speaks of cerebro-spinal affections resulting from the use of tartarized antimony, and even terms the condition *cerebro-spinal stibism;* the word being derived from *stibium*, antimony.

But again, the State's view of the case was objected to by certain of the medical experts for the defence, on the ground that neither the symptoms nor the post-mortem appearances corresponded with those of poisoning.

Professor Warren testified, "the action of tartar-emetic can not account for the phenomena observed in this case, either for the symptoms or the pathological revelations."

In the testimony of Professor Reese, we find the following statement: "Neither the symptoms nor post-mortem revelations present to my mind an indication of tartar-emetic poisoning; the post-mortem signs are not such as I should expect to find in a case of tartar-emetic poisoning, chiefly for the absence of signs of decided inflammation of the stomach and the alimentary canal."

But when cross-examined, the same witness admits that "in cases of tartar-emetic poisoning, there may be no signs of irritation in the intestines and alimentary canal." Now, if this latter assertion be true, as it undoubtedly is, how can the absence of these signs be regarded as in any degree excluding tartar-emetic as the cause of death? In fact, the objection, whatever it be worth, is fully answered by this very admission.

While it is true that tartar-emetic in poisonous quantities generally causes muscular relaxation, it is yet equally certain that through an influence on the nervous centres it sometimes occasions rigidity and convulsions.

Taylor refers in his work on Poisons to a case in which four grains of tartar-emetic were followed by strong convulsions, lasting for half an hour. In another case, reported by the same author, a man twenty-eight years of age took, by accident, two grains of tartar-emetic, and suffered with a constant spasmodic contraction of all the muscles, especially of the abdomen and upper extremities.

"Among the phenomena of poisoning by tartar-emetic," says Professor Stillé, in his work on Materia Medica,* "is rigidity of the muscles of the neck, jaws, abdomen, and extremities." And Professor Wood, in his Therapeutics,† states that under the influence of the same drug "convulsive movements are sometimes induced." Therefore the absence of muscular relaxation cannot be urged in disproof of the action of tartar-emetic.

On the other hand, while it is true that an agent possessing the irritant properties of tartar-emetic will often leave signs of its local action, yet exceptions to this are by no means rare. The experiments of Rayer, says Christison,‡ "show that death may occur from tartar-emetic without inflammation being excited anywhere. Professor Stillé refers to a case in which two grains given to an adult proved fatal after producing violent symptoms; no lesion of the stomach was found after death." Professor Wormley mentions a case in which death was caused

* Vol ii., p. 372. † Vol ii., p. 62. ‡ Work on Poisons, vol. i., 371.

by vomiting and purging occasioned by an unknown quantity of antimony; "thirty-nine hours after death there were no well-marked morbid appearances in any of the abdominal organs." Therefore the absence of conspicuous post-mortem traces cannot be regarded as excluding tartar-emetic.

So far we have been discussing the medical aspect of the case. In concluding this portion of the subject, we contend that the characteristic symptoms of cerebro-spinal meningitis were not present; and that such prominent points in the history of the case as vomiting and purging present at one time and subsequently absent; pain in the stomach, rigidity of the muscles, convulsions, and ultimately post-mortem results nearly negative in character, are compatible with and are best explained by the presence and action of a poisonous substance.

What was that substance? Medical investigation alone could not determine this; and we have therefore to examine next the chemical question involved. We shall do so briefly, because the fallacy of the position taken by the defence is readily exposed.

Avoiding as far as possible all minute details, the chemical facts of the case are these. Professor Aikin, to whom the analysis of the contents of General Ketchum's stomach was committed, had by the application of certain tests detected, as he testified, the presence of antimony. In the endeavor to throw doubt upon the results of his examination, the chemical experts for the defence showed certain reactions obtained from a combination of substances alleged to represent the contents of the stomach. They argued that inasmuch as results similar to Professor Aikin's had been gotten by tests like his from matter containing no antimony, therefore his own conclusions as to the presence of antimony were vitiated. A perfectly just argument, had the premises been true; we shall show that they were false.

Professor R. S. McCulloch, of the Washington-Lee University, produced in court a bottle containing a mixture of chloral and tincture of yellow jasmine, medicines, it will be remembered, which had been administered to General Ketchum. To

this he added what, according to his statement, Professor Aikin had added to the contents of the stomach—viz., tartaric acid neutralized by bi-carbonate of soda. Putting a part of this fluid in a test-tube, he poured upon it a few drops of hydrosulphate of ammonia. A color reäction took place, which was represented as similar to what Professor Aikin had attributed to the formation of sulphide of antimony. On inspection, however, it was evident that in Professor McCulloch's experiment the change in color really took place in the supernatant liquid, and not in the precipitate, and that this bore no resemblance to the antimonial precipitate. This was much more apparent on the following day, when Professor McCulloch's tube being brought into court, and placed beside one containing a true antimonial precipitate, the appearance of the two was striking, not from their resemblance, but from their violent contrast. The precipitate obtained by Professor McCulloch was on this day shown to Dr. Genth, a chemist summoned by the defence, who stated that "it did not, so far as he knew, resemble that from tartar-emetic." And two days later, when a phial containing Professor McCulloch's precipitate, and one containing an antimonial precipitate were held up in court, Professor Reese stated that "they were not now identical in color."

The whole exhibition was indeed more suggestive of legerdemain than a scientific procedure. In feats of slight-of-hand advantage is taken of distance from the eye, whereas in this piece of forensic jugglery the element of time was counted upon, the "jest's prosperity" depending upon the chance that the glass might not be kept.

But a still graver charge must be brought against the chemical experts for the defence. It was of course essential to the fairness of any comparative experiments, that in both cases the same reägents should be used, and the same conditions complied with in all respects.

To show the presence of antimony in a solution containing it, sulphuretted hydrogen is first added, which produces an orange-red sulphide of antimony; the precipitate thus formed is dis-

solved in boiling hydrochloric acid; this solution dropped into water gives a white precipitate, and if this white precipitate be tested with sulphide of ammonium, the orange-red color will reäppear. Professor McCulloch affirmed that he had applied these reägents (using, however, cold instead of boiling hydrochloric acid) to his chloral and jasmine solution, and had gotten results similar to those obtained by Professor Aikin. What his notion of resemblance in color reäction was, we have already seen. But at this point he stopped short, and deliberately omitted to apply a further test which was used by Professor Aikin, and regarded by him as furnishing additional proof of the presence of antimony. The white precipitate obtained by dropping the hydrochloric acid solution into water, if antimonial, is soluble in *tartaric acid.* Professor Aikin testified that he had added tartaric acid, and found the precipitate soluble therein; "that completed all that was needed to satisfy me that I had been dealing with a preparation of antimony."

But Professor McCulloch, when subjected to a cross-examination, made this admission: "I did not undertake to dissolve that white cloud with tartaric acid; in one of Dr. Aikin's experiments he dissolved the white cloud with tartaric acid; *the white cloud thrown down by antimony dissolves in tartaric acid*"; and again "it is a characteristic test to dissolve an antimonial in tartaric acid."*

Professor Reese, when examined in reference to the same omission, testified:† "I did not dissolve the white cloud from gelseminum in tartaric acid; *that is one of the tests for antimony.* I do not know why it was not done." I saw these experiments proceed up to the white cloud."

The Attorney-General here asked, "Why did you stop there?" to which the witness replied, "I do not know; you will have to put Professor McCulloch on the stand in regard to that." But this was hardly necessary; for it is difficult to conceive a more complete abandonment of a position than is shown by

* See Report in "Baltimore American."

† Report in "Baltimore American."

Professor McCulloch's testimony upon this point. After starting out with the bold assertion that the tests used by Professor Aikin were not sufficient to establish the presence of antimony, he was obliged, under a stringent cross-examination, to acknowledge that Professor Aikin had applied the proper test, and had gotten a result characteristic of that metal. In other words, his testimony on this point confirmed the State's position.

The question left by Professors McCulloch and Reese at a critical moment in an interesting state of uncertainty, was subsequently settled by Professor Aikin, who, when called as a rebutting witness, testified, "that the white cloud when it was obtained from the contents of the stomach, and treated with tartaric acid, totally dissolved; the white cloud from chloral and gelseminum would not dissolve at all when treated with tartaric acid."

The conclusion reached by Professor Aikin was corroborated by Dr. Craig, the chemist in charge of the laboratory of the Surgeon-General's office in Washington, who testified in regard to Professor Aikin's written report, "no other substance known to science except antimony would, under the tests here described, have given the result."

At the second exhumation of the body, undertaken by direction of the law-officers of the State, the liver was obtained for the purpose of ascertaining whether the antimony had been absorbed. It was examined by Professor Tonry, who applied Marsh's test in the earlier part of his analysis, and obtained spots indicative of either antimony or arsenic. Further analysis proved them to be antimony. The amount was small, for in consequence of the ready solubility of antimony its elimination from the system is rapid, as shown by Orfila and other chemists. For this reason, authorities who urge the importance of producing arsenic in the metallic form, do not make the same requirement in regard to antimony. The spots, however, were produced, and it was necessary to explain their production.

A certain Dr. Caius once asked the natural question: "What shall the honest man do in my closet?" With similar perti-

nency the question might be put, How did these spots happen to be formed?

The chemists for the defence found a happy solution of the difficulty by referring them to impurities in the materials employed in the analysis; and thus tried to vindicate their honest presence. To our apprehension, their correspondence with previous chemical results obtained by the use of other materials, is far too striking to admit of any such explanation.

The final stage of Professor Tonry's analysis, which resulted in the reduction of metallic antimony, was not completed in time to be allowed as evidence. Inasmuch, however, as it was openly announced, though in the absence of the jury, and thus became a part of the scientific record of the case, we have no hesitation in stating that *the metal was brought into court*, and held ready for exhibition to the jury and to the experts for the defence. We mention this fact for whatever additional weight it may give to chemical results already conclusive.

In the former part of this article the opinion ascribing the death to poison was stated to have been founded on medical reasoning. This opinion was confirmed by the results of chemical investigation, which, as has been seen, showed unmistakably the presence of antimony in the stomach and liver of the deceased.

Professor Reese, in his comment upon the trial, remarks:* "All we desire to insist upon here is the very strong presumption that the medical testimony of the State was materially influenced by the *assumption* of the actual discovery of tartar-emetic in the body of General Ketchum by the chemical analysis."

Now, it is clear from the evidence that this presumption is unfounded, because the medical opinion formed, as already stated, suggested in the first instance the necessity for a chemical examination. Professor Reese is in error, both logically

* Amer. Jour. Med. Science, April, 1872, p. 352.

and chronologically—logically, in confounding a cause with an effect; and chronologically, in not remembering that the expression of the medical opinion antedates the chemical analysis.

An examination of the testimony would have prevented him from falling into this latter error, and from intimating that the idea of poison "entered the mind of Dr. Williams in consequence of his being shown a tumbler containing a suspicious looking sediment."

We would remark here that there was nothing very suspicious in the *look*, but something exceedingly suspicious in the acrid *taste* of that sediment. Whether or not this gave just cause for suspicion, it is certain from the evidence that Dr. Williams, before hearing of the tumbler, and solely from observation of the symptoms, had remarked to a bystander, "I fear the General has been poisoned." And accordingly, he testified that, after tasting the contents of the tumbler, he returned to the room with his doubts changed into a conviction that his patient had been poisoned.

Yet, in the face of this testimony, Prof. Reese, endeavors to make it appear that the tumbler first prompted the thought of poison.

Professor Reese alleges that Drs. Williams, Miles, and Chew, who made the post-mortem examination, were influenced by the strong suspicion of poison. To this, we reply, that it is undoubtedly true. Examinations of this kind are not usually made, we believe, except upon suspicion. Had they not suspected poison, they would not have deemed it necessary to make the examination; and it was in order to ascertain whether the opinion already formed, would be substantiated by pathology and chemistry, that their task was undertaken.

Professor Reese censures these witnesses for "impropriety in conducting a post-mortem examination where there is suspicion of death by poison . . . . without the presence and oversight of the legally constituted authority—the coroner."

We cannot see what possible effect the presence of the coroner could have had, except to give publicity to the affair, when,

in view of the possibility of negative results, a proper regard for all concerned prompted concealment. Had the course Prof. Reese deems proper been followed, it would surely have been censured by some as hasty and inconsiderate. The coroner, had he been summoned, would have been obliged to seek just such professional knowledge as was applied to the case without his offices.

The second exhumation which occurred during the course of the trial, and which Professor Reese characterizes as "a still more glaring departure from propriety," was effected by the law officers of the State, with the understanding that whatever its results, they should be made known. It is perfectly obvious that these authorities were under no obligation to invite the defence to take part in a procedure which at any time could have been resorted to independently by the defence itself.

When Professor Reese asserts that the examination "was in the hands of those who were not entirely devoid of prejudice," meaning thereby, if words mean anything, that their preconceptions would prevent correct observation, we meet the aspersion with a denial of its truth. Such a charge would be unworthy of notice, if suggested by an advocate in the heat of an argument before a jury; but when deliberately propounded by a medical man against fellow-members of the Profession, it is so utterly unwarrantable as to cause not only surprise, but well-founded indignation.

A strange inconsistency is betrayed by Professor Reese in charging the medical witnesses of the State with being under the influence of prejudice, while at the same time he asserts that none of them testified that tartar-emetic was the cause of death. How is it possible to reconcile these two statements with each other? Does Professor Reese doubt that these witnesses believed tartar-emetic to be the cause of death? If, then, they are under the influence of prejudice, what better way of manifesting their prejudice than by expressing their belief? If, on the other hand, believing as they assuredly did, they were yet reticent as to their belief and reluctant to express it,

then how can he allege that they were acting under the influence of prejudice? His positions are mutually destructive of each other. But if he desires to know why reference was not made by the State's witnesses to tartar-emetic as the fatal agent, the reason is easily given, and it is one which, in the judgment of all fair-minded persons, should absolutely acquit them of the charge of partisanship or prejudice. At no time were they questioned by the counsel for the State as to whether they believed the death to have been caused by tartar-emetic; and they held it to be no part of their duty to advance opinions which might injuriously affect the accused.

We regret being compelled to allude to matters of a personal nature, which, as far as possible, we had determined to avoid; but a word more must be said.

An intimation lurks in the pages of Professor Reese's review that certain members of the Faculty of the University of Maryland were influenced in giving their medical testimony by the fact that Professor Aitken was their colleague. This is no where openly stated, but it is clearly intimated. A charge of such a nature, however faintly suggested, however salved over by allusions to "high character and standing in the Profession," demands notice, that it may be repelled. Were it made openly, though not less injurious, it would have been more manly; but being implied and not expressed, we can but regard it as an indication of the spirit which is "willing to wound and yet afraid to strike.

It was stated at the beginning of this paper, that besides the questions of diagnosis suggested by the case, considerations of a moral nature were also involved in it. Physicians are ordinarily occupied with tasks, the accomplishment of which carries with it a large measure of reward. But in circumstances like these, the application of professional knowledge which they are required by duty, as well as compelled by law to make, engages them apparently in strife, and may subject them with unmistakable reality to obloquy and reproach.

Against such reflections, however, the proper and the only

antidote is this: that in whatever sphere medical knowledge may be required, there it is our duty honestly and patiently to work.

The medical and chemical facts of this case, and the opinions founded thereon, we submit to the judgment of the Profession.

The Non-action of Atropia on Pigeons.—Dr. H. C. Wood, Jr., Philadelphia ("American Journal of Medical Sciences"), in a valuable "Contribution to the Physiological Action of Atropia," remarks that the causes of the non-action of atropia on pigeons seem to be three in number. First and chiefly, absolute obtuseness of the nerve-centres to its action, an obtuseness the cause of which will be explained just so soon as the action of atropia on the nerve-centres of man is known. Second, very rapid elimination of the poison, for he has noticed that the conjoint urino-fæcal discharge becomes watery and abundant under the action of the drug. Third, when taken internally, comparatively slow absorption, so that the poison is removed from the blood by the kidneys, etc., as fast as it enters it.

Hydrochlorate of Quinia in Whooping-Cough.—Dr. Breidenbach speaks of the marked benefit derived from the use of the hydrochlorate of quinia during a violent, but not widely spread, epidemic of whooping-cough occurring last year, the dose administered being governed by the age of the patient and the severity of the attack, but being relatively large and varying from one and a half to fifteen and a half grains per diem in children of from three weeks to eight years. No other remedy than the quinine was used in the cases on which he bases his opinion of its merits, and some of the children, on account of poverty, were freely exposed to the injurious influences of the weather.

The action of the drug is prompt. In the most serious cases, after the use of the remedy for forty-eight hours, the frequency and violence of the attacks began to diminish. To prevent relapse, the use of the remedy was continued for some time in smaller doses.—*Practitioner, February.*

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

Treatment of Croup.—Dr. Daquillon recommends ("Gazette Hebdomadaire") the following treatment when symptoms of suffocation from croup are imminent: A sponge, after being dipped in pure liquor ammoniæ, is to be squeezed until no more liquid drops from it, and is then to be passed, by means of a whale-bone probang, down the throat. The child should be compelled to inhale the vapor of ammonia as long as it possibly can. The immediate result of this treatment is an abundant secretion from the respiratory mucous membrane and the expectoration of false membrane; the dyspnœa diminishes, the cough is less hollow, and the voice is less muffled. Often in cases where death seemed imminent, the lives of children have been saved.—*Medical Times.*

Iodized Milk.—From Hoffman's most admirable report on the "Progress of Pharmacy," we make the subjoined extract, which has a practical value for the physician: "It is well known that milk takes up iodine, disguising its taste, color, and smell completely. Since iodine is an antiseptic, iodized milk keeps for some time. Dr. Hager calls attention to this fact, and suggests that this perhaps is the mildest form of administering iodine. Its therapeutic effect seems to be equal only to about one-fifth of the iodine. Hager thinks iodized milk will soon become a favorite form of administering iodine, and suggests the following mode of preparation: One part of iodine dissolved in ten parts of alcohol, mixed with ninety parts of fresh, warm cow's milk.—*Med. and Surg. Reporter.*

On the Combined action of Morphine and Chloroform.—In a communication of M. M. L. Labé and E. Guyon, placed before the Academy of Sciences of Paris, the following remarks were made: "M. Cl. Bernard has raised the important question, and partly demonstrated to us, that it is possible, by combining the action of morphine with chloroform, to obtain a state of pro-

found and complete anæsthesia, with a much less quantity of chloroform than is ordinarily used in applying that agent alone. In experiments upon dogs after an injection of morphia beneath the skin, anæsthesia was quickly produced and prolonged, although the quantity of chloroform absorbed was very little.

At the same time M. Cl. Bernard was conducting his experiments, Nusbaum, of Munich, similarly observed the same phenomena in a woman, who had, during the course of an operation, absorbed a large quantity of chloroform. This surgeon not wishing to administer it too long, through fear of inducing fatal syncope, was struck with the idea of administering an enema with a small quantity of morphia dissolved in it, he then observed that the anæsthesia was prolonged for a longer time than before. Two surgeons of Strasburg made researches on the same subject with the same result. In operations performed in the Hopital la Pitie, M. Labbé in four cases injected chlorohydrate of morphia under the skin, following it with chloroform, and from the results obtained came to the conclusion that anæsthesia is more safe and quick by combining the action of chloroform with morphia; that the anæsthesia is of longer duration and will be prolonged for a longer time by smaller doses of chloroform, and consequently the risks of accidental deaths are considerably diminished.—*Medical Press and Circular.*

Treatment of Cancrum Oris.—Dr. McGreevy ("British Medical Journal") says: "Of all the local remedies or applications I have resorted to in such cases, I have never found any application so useful or so effective as hydrochloric acid. Neither nitric acid, nitrate of silver, nor chlorate of potash, nor any other remedy that I have ever tried or used, except hydrochloric acid, did I ever find to be of the least use to check cancrum oris. I have almost never found hydrochloric acid fail to check the progress of this dreadful disease at once, and bring on a most rapid and healthy action in the part. Nor does it cause so much pain or suffering to the little patient as one would suppose, seeing that the gangrenous spot is almost en-

tirely without feeling at this time. This acid is easily applied to the ulcer by means of a feather or small camel-hair brush. I have cured many cases of cancrum oris by this means.—*Med. Archives.*

Preservation of Subjects for Dissection.—In the "Progreso Medico," April 1st, we see it stated that a certain Professor Gaillery has submitted to the approbation of the Royal Academy of Medicine of Belgium a very simple method of preserving *subjects*. He placed a dead body on a table and covered it completely with a sheet wet with a solution of phenic acid in the proportion of two per cent.; afterwards, every four or five days he pours over the body a certain quantity of the same solution. The first result was the absence of mephitic emanations, and in examining the body from time to time it was found to preserve almost the same appearance as it had at death. The walls of the abdomen gradually sunk. The experiment has lasted for six months, and the body remains in the same condition. This is a most important discovery.—*Medical Press and Circular.*

On the Use of Carbonate of Lithia in Gout and Uric Acid Gravel. By Prof. Ditterich, of Munich.—Carbonate of lithia, according to Prof. Ditterich, must always be considered as the most powerful remedy in gout and the morbid conditions depending upon excess of uric acid, and the salt has fallen somewhat into disrepute of late only in consequence of being unsuitably administered. The doses of from five to ten grains, recommended by Aschenbrenner, generally produce very unpleasant symptoms, as dyspepsia, catarrh of the stomach and bowels, with vomiting, etc., which require the discontinuance of the remedy.

These doses, according to Professor Deitterich, are much too large to act beneficially, and the single dose should never exceed twelve centigrammes (a centigramme is the hundredth part of a gramme, which is about fifteen grains), and in twenty-four hours not more than a gramme should be given altogether.

The next question to be asked in the treatment of gout is whether the case presents itself in the acute or chronic form, for in the former lithia is unsuitable, but in the latter the carbonate may be given in the proportion of half a gramme (about seven and a half grains) in a hundred and fifty grammes of distilled water, one or two teaspoonsful to be taken every two hours. Thus administered, the lithia causes no inconvenience, and generally affords relief in from eight to fifteen days, during which the painful parts are covered with socks or lined coverings. According to Prof. Ditterich, the gouty swellings which have become hardened are not affected by the lithia circulating in the blood until the adjacent parts of the limb have been brought into a state of congestion by stimulating embrocations. *London Practitioner*, from *Jahrbucher der Gesammten Medicin* and *Med. Chir. Review.*

Hydrochlorate of Narceine for Hypodermic Injections.—Dr. Petrini, in the "Bulletin de Thérap.," advocates this salt as superior to sulphate of atropine or muriate or morphia. In very small doses, five milligr. to one centigr., its calmative power is manifest. It is superior in its power to control sickness to salts of morphia. When all preparations of opium or morphia fail as hypnotics, a small dose of the salt of narceine will succeed. In the smallest doses its effects are also to slightly raise the temperature, as well as the frequency of both the pulse and respiration, but at the same time to reduce arterial tension.—*The Doctor.*

Ovarian Cyst in a Child Eight Years Old.—Dr. C. G. Goodrich, of Minneapolis, reports a case of ovarian cyst in a child eight years old. He tapped her and drew off eight pints of thick, glutinous fiuid, which was followed by rapid and encouraging improvement. Fourteen days after he was compelled to tap her again followed by a third tapping seventeen days after the second. After this she failed rapidly and died. The autopsy revealed an ovarian cyst, with extensive adhesions to the peritoneum and liver.—*Northwestern Med. and Surg. Journal.*

A Plantation Negro's Prescription.—A gentleman in Alabama, in exerting himself one day, felt a sudden pain, and fearing his internal machinery had been thrown out of order, sent for a negro of his plantation, who made some pretensions to medical skill, to prescribe for him. The negro, having investigated the cause, prepared and administered a dose to his patient with the utmost confidence of a speedy cure. No relief being experienced, however, the gentleman sent for a physician, who, on arriving, inquired of the negro what medicine he had given his master. Bob promptly responded:

"Rosum and alum, sah."

"What did you give them for?" continued the doctor.

"Why," replied Bob, "de alum to draw the parts togedder, and the rosum to soder um."

The patient eventually recovered.—*Cin. Lan.*

Dislocation of the Radius and Ulna Backward in a Patient Two and a half Years Old.—Professor W. T. Briggs reports, in the "Nashville Journal of Medicine and Surgery," a case of dislocation of the radius and ulna backward in a child two and a half years old. This is very rare. Malgaigne says that of 643 dislocations, only one occurred under five years of age. Hamilton, in fifty-six cases only, reports one as young as five.

A Prothetic Apparatus for the Survivors of Amputation at the Hip.—Dr. George A. Otis, Assistant Surgeon, U. S. Army, ("Am. Jour. Med. Sciences"), states that, by using a gutta-percha artificial stump nine or ten inches in length, firmly strapped to the pelvis by a broad chamois-lined canvas band, an ordinary artificial limb for thigh-stumps can be used. In two cases of amputation of the hip under his supervision, this expedient has been employed by Dr. E. D. Hudson, New York, and the mutilated men walked better than most men with artificial limbs who had been amputated at mid-thigh.

Diffused Cerebral Sclerosis.—Dr. Wm. A. Hammond, of New York, ("New York Medical Journal"), thinks that the central lesion in cerebral sclerosis may occasionally be reached, when it

has not had time to become very extensive or profound. He regards the primary galvanic current passed through the brain, and the administration of chloride of barium, as the best agents in the treatment of the lesion. The chloride of barium may be given in doses of about a grain three times daily. It is usually administered in solution, according to the following formula: ℞.—Barii chloridi, ʒ j.; aquæ dist. M. ft. sol.; dose: gtts. xij. three times a day.

A Severe Case of Epilepsy.—Dr. Reuben A. Vance, of New York, ("New York Medical Journal"), has under his professional care a little girl from Williamsburg, who four years ago sustained a severe injury of the head, which gave rise to extensive necrosis of the frontal and parietal bones. A year ago she was having epileptiform attacks at the rate of a dozen a day. No one, he says, who then saw the child imagined that anything short of trephining would do her any good. Yet, under the careful administration of bromide of potassium, she has completely recovered.

Sulphurous Acid in Typhoid Fever.—Dr. Wilkes, of Ashford, Kent, ("Medical Press and Circular"), has been highly successful in the treatment of typhoid fever with minute doses of sulphurous acid. He affirms that the acid arrests the further development of the fever-poison, and thus exterminates the fever. Out of 173 cases of typhoid fever treated, only two deaths occurred.

Dr. Wilkes administers the remedy with syrup of oranges, in water, in doses of from two and a half to twenty minims every four hours, until the patient believes he is tasting lucifer matches.

MEDICAL NEWS.

'Nulla dies sine linea."

Cerebro-spinal meningitis yet prevails to a serious extent in many parts of the United States. It does not seem to prevail

any longer at Baltimore, since the termination of the interesting trial (for poisoning) at Annapolis.———Cholera has appeared in Eastern Europe.——Lostorfer's syphilis corpuscle still induces enthusiastic study. The probabilities are that as a diagnostic the corpuscle-change claimed is worthless. Similar changes are seen in the spanæmic blood of tubercle, scrofula, etc.———Dr. R. O. Cowling, of this city, has recently performed the operation of transfusion for leucocythæmia; as anticipated by him, the operation did not produce any relief; it gratified, however, the earnest wish of all interested.———A sketch of the life of Dr. S. H. Dickson will be soon published in this Journal. Those so far given are defective, and some erroneous. Dr. J. M. Da Costa succeeds him; a wise selection. ——— *Dentistry in Hospitals.*—The trustees of the Massachusetts General Hospital, at a meeting held March 1st, voted to establish the office of "Dentist of the Hospital," and adopted rules in relation thereto. All hospitals should have one or two dentists on their staff. At the same meeting, Charles Wilson, D. M. D., was appointed to fill the position: The daily attendance at this department has increased so rapidly that several thousand patients are now treated in the course of the year.—*Ex.*———*The Medical Diploma Trade.*—The Commjttee of the Legislature of Pennsylvania, appointed to investigate the selling of medical diplomas by the colleges of Philadelphia, have concluded their labors. It appears on evidence that the Philadelphia University of Medicine and Surgery, and the Eclectic Medical College of the same place, have been found guilty of selling diplomas. The most searching investigation of the regular medical schools has failed to disclose anything irregular or inconsistent with their high character as institutions of learning. The charters of the Philadelphia University of Medicine and Surgery, and of the Eclectic Medical College, have been revoked by a unanimous vote of the Pennsylvania Legislature. This ends the diploma traffic in Philadelphia.—*Ex.* ———*Inoculating Syphilis by Vaccination.*—According to Dr. Med. A. Walter, Physicist of the Circuit of Hoyerswerda, Gy.,

with its 31,160 inhabitants, not one case of this character has occurred during forty-one years' observation in that district. Such a calamity, he says, may be avoided by constant attention on the part of the physician. Many English, German, and French physicians, some of whom have vaccinated over 40,000 children each, testify that they have never known a case of such communication.—*Ex.*———*India-Rubber.*—The supply of India-rubber is found to be inexhaustible. Each tree can be tapped for twenty successive years, and yields on an average three tablespoonsful a day; 43,000 of these trees have been counted on a tract of thirty miles long by eight wide.—*Ex.*———*The Effect of the Chicago Fire.*—This Fire destroyed the Marine, Jewish, Woman's, Alexian Brothers', and the Small-Pox Hospitals, and the Eye and Ear Infirmary. It consumed two homœopathic pharmacies (Halsey's and the Northwestern), and more than a hundred wholesale and retail drug stores. Three medical colleges—the Rush, the Woman's, and the Bennett—were burned. Four medical periodicals—the "Chicago Journa," the "Medical Examiner," the "Medical Investigator," and the "Medical Times"—lost their offices, etc. Two hundred physicians lost their homes, offices, fixtures, libraries, instruments, and fields of practice; everything in a single night.—*Ex.*——— *M. Marey.*—This distinguished sphygmograph observer, who is, perhaps, best known by his writings on the use of that instrument, has just been elected into the Section for Anatomy and Physiology of the Académie de Médicine.—*Ex.*———Professor Huxley's health has greatly improved since his residence in Egypt.—*Ex.*———*Traumatic Tetanus.*—Clinton Cushing, M. D., Oakland, Cal., ("Pacific Med. and Surg. Journal") has successfully treated a case of this malady by repeated doses of 1-12th grain of the English extract of the calabar bean, and 15 grains of the hydrate of chloral.—*Ex.*———*Ether as a Beverage.*—In concluding some observations on the supposed mixing of chloral with beer, the "Chloralum Review" says that the practice of drinking sulphuric ether is on the increase in the north of Ireland, and that one Dublin

manufacturer of ether sends the greater part of his production into the far northern counties, particularly Antrim.—*Ex.*——— *The Junior Editor.*—To Dr. E. S. Gaillard and Mary E., his wife, on the 14th of June, a son, Edwin White. All whose writings and record have been unwelcomely reviewed in this Journal will be noticed hereafter (if noticed at all) by him. He is already quite strong enough for light work of this kind.

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

Association of American Medical Editors.—At the last meeting of the Association of Medical Editors, there were only five medical journals represented. There were elected at this meeting a president, vice-president, secretary and treasurer, leaving one journal, through its representative, to play the part of convention. It is not known who played this singular rôle. Shakspeare, in his "As You Like It," makes Jaques say, "All the world's a stage, and all men and women are merely players, * * * * and one man in his life plays many parts"; and he then enumerates many parts, but, with all the vividness and vivacity of his imagination, it never occurred to him that one man could play the part of a convention. St. Paul once said, "there are bodies celestial and bodies terrestrial," and, in his exposition of this great subject, he states that "the glory of the celestial is one, and the glory of the terrestrial is another." The Corinthians were deeply impressed by his masterly use of figurative illustration, and one can readily imagine that, under his wonderful power of descriptive, they grasped each ideal figure as it was presented; but it is impossible to imagine what would have been their confusion of ideas and his mortification over failure had he, in describing the peculiar glory of each kind of body, undertaken to present, with the gift of prophetic pres-

cience the peculiar glory of that remarkable body in Philadelphia which, after being officered, consisted of one poor unfortunate medical editor. The glory of a terrestrial body may be one, and the glory of a celestial body may be another; but unto what shall the glory of the body of this Association be likened? One is almost tempted to believe that St. Paul was indulging in prophetic humor, and was prefiguring this remarkable body, recently seen in the Quaker City, when he assured the confiding Corinthians that "the glory of a terrestrial body is *one*." Indeed, this may have been his satire, as well as his wit, for the glory of being one, seems to have been the only claim of this body to any glory whatever. One reads without surprise that the usual appointment of committees was not made; an illustration of the virtue of necessity. It is true, one committee of three was appointed on prize essays, and, as it was evidently determined that one of the editors assembled should have a prize, competition was limited to the members of the Association. As five journals were editorially present, and as three of these were selected, through their editors, to adjudicate the prize, the competition for the prize is reduced to two; there are two prizes to be given, so that each of the contestants in the race can, by a little agreement, have his ambition gratified, his friends made happy, etc. One prize is to be given in 1873, and one in 1874. This arrangement seems to have been specially made for the satisfaction and remuneration of those two members who could not be made officers in 1872. As there are to be two contestants, the member who fails to receive the prize in 1873 will, even in his failure, have a high stand; as high as that of the historic boy who was always next to head, in a class of two. One prize (that for 1873) is to be for the best essay on the pathology and treatment of the ovaries, and the other (that of 1874) on the stage of pulmonary tuberculosis at which change of climate is desirable. No one can compete for these prizes unless he publishes a journal. As this will cost him several thousand dollars, and the prize is worth about one hundred (with no money in the treasury) the

inducements to strip for the race and indulge in Olympic enthusiasm is, it must be confessed, not very irresistible. At the election of officers, the vote was unanimous, and the body of the Association was, in a very complimentary way, allowed to cast the vote of this august body. Dr. Theophilus Parvin was elected president. He will no doubt give a chaste and interesting address. It will certainly be free from plagiarism; for no one is so great a foe to this vice as is this excellent gentleman; indeed, if any one fears being reported as a plagiarist, he had best never allow the President of this Association to read his productions. Jesting apart, nothing demonstrates so well as the history of this Association, that a useless enterprise must end in failure. This body was not needed; it can accomplish no good, and it must surely die. Dr. Parvin originated it; it is meet that he should be chief mourner at its funeral. He will then have been the beginning and the ending; the Alpha and the Omega of this feeble and unfortunate creature. The robust parent of a feeble offspring now passing away; passing away; another winter of ebbing life, and, with the snows of the season, it must vanish in the early spring. The editorial family must surely all be there at the last; be there to deck the bier with the early spring flowers; to mournfully chaunt the *requiescat;* and then, with the dripping cambric decorously held to the eyes, to come away from the willows. In the Willow Copse, near St. Louis, the last sad rites are to take place; the emerald turf is to be lifted to form one little green-billow; the memorial tablet is to be erected; and at some time in the distant future, the curious antiquarian will learn of the existence of this unhappy little body as he reads this memorial inscription: "Sacred to the memory of the Association of American Medical Editors; Obiit. May, 1873; Æt. Four Years."

The Georgia Medical Companion has been recently advised not to prate so unceasingly on "the ethics," when, as is the custom with charlatans, it is publishing all the testimonials it can secure; and when its leading editor was expelled from a Southern Medical College Faculty for imposition and quack-

ery. It replies in a four-page annihilator. It terms the writer "an eagle"; "a Chesterfield"; "a Solon," and "the Pope" (using for the initial letter a small p) and other appellations equally kindred and congruous. One prone to metaphysical investigation would speculate as to the character of the brain which created that irresistibly comic production; which detected in an assumed enemy such a protean variety of physical manifestations. What must be the condition of an individual, when he sees, in the same corporeal development, the sparkling fashionist Chesterfield and the devout occupant of the Vatican; the ever patriotic eagle and the profound lawgiver? Had he added to his complex list "bugs" or "snakes," one might have been certain of what is now but the subject of grave suspicion. Either the bug and snake condition of mind created that article, or, what is more probable, it was written by the fractional portion of the editorial staff. It "reads" very remarkably like their productions. Two very curious statements are made in this late comic article; one is, that the editors publish the "Companion" for the good of the Profession (which is about the most cruel stricture upon the Profession on record), and the other is, that when offering to be the organ of the Virginia Medical Society, it only intended to be "courteous!" What a strange conception of courtesy!! But a few months since, the "Companion" exhausted panegyric upon the writer; now he has become so vile as to be the American Eagle!! He is charged with "bragging," because he states the physical weight of his journal, and that past editions are exhausted. He is told that it is right to publish testimonials because other Journals do so! As though the act were made by repetition less disgusting and offensive!! The advice previously given is repeated. Cease, under the painful facts demonstrable, to prate of "the ethics," and then discharge the fractional editors. Lastly, when one sees an object which resembles, at once, Chesterfield, Solon, an eagle, and the pope, he may be sure that he is not right in the upper story; he should not expose himself with the pen, but ask some one to give him a dose of bromide, and pat him upon

the head until he goes to sleep; a nursery song would be best on such an occasion.

There is no desire to injure the "Companion." If one could stoop to detraction, in competition, it is the last medical periodical that would be assaulted, for it is not only harmless, but helpless. Friendly advice has been kindly given; it had best be taken, before it is too late.

Quack Advertisements.—At the last General Methodist Conference it was proposed that all church papers should exclude "quack" advertisements. The question was referred to a committee. Methodists have done great and good work, but this would render the whole country debtors to them. Nothing less than the lash of the pulpit can shame the editors of church and secular papers into a manifestation of ordinary honesty and decency in this connection. For the money paid to them by those known to them to be unquestionable charlatans, swindlers, impostors, and criminals, they barter their consciences, their sense of decency, respectability and honest dealing. The lash of the pulpit should fall heavily, and every honest man will pray that each stroke may cut its way within. The lash is the only missionary which can secure here repentance and reformation. It is difficult to imagine, however, a trouble more profound than will be that of clergymen, and judges, and lawyers, and postmasters, and, of course, members of Congress, when they are no longer desired or allowed to declare, by their signatures, the potency and efficiency of every vile compound which is submitted to their notoriously subtle and pharmaceutical acumen. If the Methodists will only jibbet the quacks, by starving out the editorial vampires who criminally publish the known falsehoods of quackery, medical men will secure for them the lasting commendation and gratitude of the decent members of every community.

Medical and Surgical History of the War.—The first part of the Medical and Surgical History of the War has been sent to Congress, with a request for permission to complete the work.

This work has been prepared with great care and fidelity by the Surgeon-General of the United States Army, J. K. Barnes, and his efficient staff, and will be one of great interest and value. Its value may be inferred from a few facts: The major amputations recorded are 30,000; excisions of large joints, 5,000; ligations of large arteries, 800, etc. All scientific physicians await with great interest the appearance of this great work. It is feared that Congress adjourned without making the necessary appropriation. So much time was expended, during day and night orgies, in connection with the kuklux bill, and other stupid and disgraceful manifestations of partisan and bad legislation, that so meritorious a work as the protection of medical science and human life, most probably, escaped attention.

The Capon Springs of Virginia.—These celebrated Springs have passed into the hands of Messrs. Frazier & Sale, gentlemen of liberality and experience. Those who wish to visit a most charming spot, enjoying at the same time all that a notorious watering-place can offer, will do well to go direct to these Springs. The skeptics and doubters have only to send to the proprietors for their interesting pamphlet; conviction will be thorough.

Volume Fourteenth.—This is the first number of volume fourteen. The friends of the Journal will please call the attention of their acquaintances to the fact. By subscribing now all of the numbers of this volume can be obtained. Fifty cents apiece will be paid for all numbers of the thirteenth volume sent to this office.

Location for Sale.—Any physician wishing a desirable location, and practice worth $2,000 a year (for a small bonus) can hear of such an opportunity by addressing the editor.

Harvard University.—Read its new advertisement.

THE RICHMOND AND LOUISVILLE

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ART. I.—EXCISION OF THE LEFT SCAPULA SUBSEQUENTLY TO RESECTION OF THE HEAD OF THE HUMERUS OF THE SAME SIDE. By SAMUEL LOGAN, M. D., Professor of Anatomy and Clinical Surgery in the Medical Department of the University of Louisiana, New Orleans.

As a contribution to the literature of resection, it is deemed advisable to place on record the following case, for the clinical notes of which I am indebted to my ward student, Dr. J. C. Compton, late Interne of the Charity Hospital, New Orleans, and to Mr. L. P. Guyol, Medical Student and Interne of the same Institution.

Excision of the scapula alone is a comparatively rare operation, but when following a resection of the head of the humerus of the same side, it is extremely uncommon. I presume the operation has been performed under similar circumstances, for "there is nothing new under the sun"; but without having looked very carefully into the literature of excisions, I have found no similar case. I am agreeably surprised at the degree of usefulness of the extremity after such an extensive removal of bone, and deem it worthy of publication, as presenting quite interesting features from this point of view.

Case.—Pierre Janvier; white; male; native of Ranle,

France; nine years a resident of New Orleans; occupation, gardener; age thirty-three (33); dark complexion; pitted with small-pox; medium height; moderately robust appearance; entered ward 7, of the Charity Hospital, in August, 1871.

About eighteen months before he entered he had been an inmate of the small-pox hospital for a severe case of variola; says that during his convalescence from that disease he received several severe blows on his shoulders, and shortly after began to suffer pain in the left scapulo-humeral joint. At his admission caries of the head of the left humerus was diagnosed; and on the 3d of September, Dr. Kennedy, then in charge of the ward, performed the operation of resection, taking off about two inches of the humerus. The hæmorrhage was considerable; so much so that on account of the prostration induced, the operation was not completed until the afternoon of the next day; when, the patient having sufficiently revived, it was finished by the removal and scraping of the carious surface of the glenoid cavity. It was then thought that there was more caries of the body of the scapula; but it was not deemed advisable to attempt its removal at that time. The patient was placed on tonics and nutritious diet, and in a few days regained his strength, although throughout his stay in the hospital he has presented rather a cachectic appearance. This rapid improvement, for some weeks, induced the Doctor to hope that any remaining caries of the scapula might come off with the discharges. The sinuses, however, continued to emit a thin sanies, and several new orifices formed at different points over the dorsum scapulæ. A probe passed through any of these fistulæ impinged against dead bone, in some places crumbling, in others solid, showing a concurrence of caries with necrosis. The caries was mostly confined to the neighborhood of the glenoid cavity, while the necrosis affected the body of the bone. It being evident that longer delay could only prove injurious, I determined upon operating to remove the dead parts, remarking to the students who were present, that in all probability I would find it best to take away the whole scapula, and that I

would therefore so plan the incisions as to admit of this operation being practiced should my expectations be realized.

December 19, 1871.—Performed to-day, with the assistance of the above-named gentlemen and the other internes of the Charity Hospital, and in the presence of the medical class of the University of Louisiana, the following operation: After having given the patient about an ounce and a half of whiskey, chloroform was administered to the production of complete anæsthesia, and an incision was made, commencing over the back edge of the acromion process of the scapula, and extending for about five inches in a line running obliquely over the dorsum towards the inferior angle of the bone. The knife was made to penetrate deeply at the first sweep, and its point was felt to impinge for most of the distance against dead bone; at first crumbling through a mass of caries, and then jarring against a denuded and necrosed but solid portion. Another cut was then made about four inches in length, bisecting the centre of the above-mentioned incision and at right angles to it. On examining the parts thus laid bare, it became at once evident that the conjoined caries and necrosis were so extensive as to require the ablation of the whole bone. Exploration of the index finger showed that the long-continued suppuration had caused extensive separation of the periosteum; indeed, almost the whole of the dorsum scapulæ was stripped of its periosteal covering and bathed in the sanious fluid which welled up profusely as the primary incision was made.

The first incision was now promptly extended to about an inch beyond the inferior angle of the scapula, so as to give an abundance of room for me to get beneath and around this part of the bone and lift it up. This was readily effected after the soft parts had been divided and the flaps over the dorsum dissected up. With the inferior angle held up, the sub-scapula muscle was partly divided and partly pulled out from the subscapular fossa, and temporarily left in the wound. The other muscular attachments were divided, and the bone denuded with care until the dissection approximated the region of

the former joint. Here the chief difficulty presented itself. The long-continued inflammatory process, subsequent to the previous humeral resection, had so matted the parts together in one vast cicatricial mass that the anatomy was no longer recognizable, and I could neither see nor feel where the axillary vessels and nerves were. Fearing that the point of the knife might at any time injure some of them, and being unable to hug the bone with the instrument on account of the irregularities of its diseased surface, I determined to adopt another plan of procedure. En passant I would remark, that the rule laid down by the authorities for our guidance in those resections where we are obliged to work quite near important structures, *i. e.*, to hug the bony surface with the knife, is one of those many precepts, plain and simple in their enunciation, and well enough to bear in mind, but not so easy in many cases in their practical application. It is simple enough on the dead subject, and in those few cases on the living where the bony surfaces and their surroundings are not much altered by disease or injury. The knife can then glide readily enough along the surface, or its handle can easily peel off the periosteum with perfect impunity to surrounding parts. But in such cases as the one now under consideration (and these constitute the vast majority) the matted condition of the parts, the frequent absence of periosteum, the crumblings and irregular character of the bone-surface, the abnormal relation of parts, all tend to produce so much confusion as to make the rule by no means a simple one in practical application to the living subject.

But to return—meeting with the above-mentioned difficulty, I at once concluded to cut off the two processes (coracoid and acromion) at their roots, with the bone-pliers, leaving them to be dissected out at leisure after the body and head of the bone had been taken away and the bleeding checked. The greatest difficulty of the operation evidently consisted in getting round the processes, especially the former, with safety to the vessels and nerves, matted and dragged down as they were by plastic material, as already mentioned. As soon as I had divided

them from the body of the bone, the latter was more easily lifted and drawn backwards, when a few strokes of the knife severed the remaining attachments.

The bleeding was soon arrested; three ligatures were applied; and, everything being now open to view, the two processes were now carefully dissected out without any further hæmorrhage. A few masses of muscular, fatty and cellular tissue, lying loosely in the wound, one of which was composed of sub-scapular muscle, were removed; the whole wound was thoroughly sponged with carbolic lotion, one part of the acid to sixty of water; the flaps were brought together with silk sutures, leaving the lower extremity of the long incision open for drainage; a compress of lint soaked in carbolic acid, one part of the acid to twelve of oil was applied; and an anodyne was administered to the patient, who had recovered well from the chloroform, and who presented no evidences of the surgical shock.

I need not tire the reader with a daily record of the case. Suffice it to say that there was hardly any reäctionary fever. The patient slept, ate, and drank tolerably well; and the wound united in a great degree by primary union, so far as the skin was concerned, though a somewhat prolonged suppurative process took place beneath, the discharges finding vent through two openings—the one provided at the operation, and a counter puncture made afterwards (February 15th) higher up, and a little in front of the line of the first incision, where the pus seemed to bag somewhat, and thus require a freer outlet.

The parts were daily syringed out with a solution of carbolic acid—℞. Acid. carb. ℥ss.; Aq. oi.), and dressed with carbolized oil (acid carb. ℥ss.; olei. olivæ vss.)

For the following observations I am indebted to Dr. Compton and Mr. Guyol, the gentlemen already mentioned, and to whose assiduous care and skillful attention very much of the success in the case is due. I use their words:

"*March 19th.*—The wound is almost entirely healed, and the patient has the following use of the limb: He can lift readily any moderately heavy article. The strength of the arm was

tested this morning with a pair of spring scales. He can pull perpendicularly (lifting) 26 pounds, horizontally 26½ pounds; by simply flexing the forearm (and not lifting with the body) he can raise 14 pounds; he can place his hand on either ear or shoulder, but not on the back of the neck, and can pass his hand over the whole of his forehead and face; he cannot carry his hand behind his back, but can readily bring it so as to sweep over the whole chest and face.

The cavity left by the operation is filled almost to the level of the surrounding parts with a somewhat hard mass of new deposit.

Remarks.—The degree of usefulness remaining to the limb exceeds that of many cases of resection of the head of the humerus where recovery has been prompt and satisfactory. I was somewhat surprised at this, until, when carefully examining the limb, I noticed the great amount of hard, fibrous material extending from the remaining portion of the humerus up to the seat of the last operation. The result of this rigid condition of the parts is that the upper extremity of the humerus, itself being involved in the mass, is held much more firmly in position than is often the case in humeral resections. The long delay in the recovery had therefore a beneficial effect; for in these cases of resection it may be laid down as an axiom, that the usefulness of the extremity, other things being equal, bears a direct ratio to the stability of the humerus; as I have already explained in an article on scapulo-humeral resections, to be found in the October number of the "Southern Journal of Medical Sciences" for 1867. The more steady the humerus the more available becomes the action of the brachialis-anticus muscle in carrying the hand up towards the face. This muscle becomes, in such cases, the main agent in flexion of the forearm. If the upper end of the humerus dangle loosely under the skin, a large portion of its force is expended in drawing that bone forward; and just in proportion to the degree of this anterior traction of the humerus does the muscle fail to carry the forearm forward in flexion. But on this latter movement mainly

depends the usefulness of the member. If the patient cannot bend the elbow efficiently, he inevitably fails in his efforts to carry anything to his mouth, or to manipulate his face and head. Hence the proposition that the more fixed the end of the humerus, the more useful will the member be to the patient. The validity of this proposition may be readily tested by the following experiment on any one who has been the subject of resection of the scapular extremity of the humerus: Ask the patient to flex his forearm to his utmost capacity; if the arm of the experimenter be placed in front, against the end of the humerus, this bone will be felt, and often seen, to project forward under the skin. Note the height in front to which the hand can be elevated; let it fall, and then placing your hand on the humerus, so as to hold it in its natural position, ask the patient to try again. The hand will be found to mount up very much higher than without this support, in those cases where the humerus floats loosely in the soft parts. In one case in which I tried this experiment before the class of the South Carolina Medical College at Charleston, the patient, who, without any support to the humerus, could only bend the elbow sufficiently to admit of his hand being laid over the middle of the sternum, to his own surprise, and highly to the amusement of the audience, gave himself a smart slap on the face, after being told to exert his utmost endeavors in flexing the elbow, while I held the humerus in position. The practical conclusion to be drawn from this view of the after-pathology of humeral and scapular resections is, that that mechanical appliance which best supports the humerus in its proper axis will be found the most useful. It was to carry out this indication that I devised the apparatus described in the above-mentioned journal. This consists simply of a well-fitting and well-padded shoulder-cap, to the outer edge of which is attached a sheet-iron splint, extending down the arm sufficiently low to enable a circular band attached to its lower end to grasp the humerus securely when passed round the arm and buttoned to the splint. The apparatus was first made for me by Tiemann, of New York.

ART. II.—CEREBRO-SPINAL MENINGITIS. By J. H. SOUTHALL, M. D., Little Rock, Ark. [Read before the Pulaski County Medical Association, and Published at the Request of the Association.]

Mr. President and Gentlemen of the Pulaski County Medical Association,—It is with no false assurance of diffidence that I to-night, in accordance with the appointment of our President, submit for your consideration, and in furtherance of some discussion, as I understand its object, the subject of Cerebro-Spinal Meningitis; and in parenthesis will express the hope that the many imperfections discoverable, may have their "quantum sufficit" of allowance bestowed, because of your inexperienced narrator, and the brief space I propose to allot its consideration herein.

To begin, it is contended by many physicians that the name Cerebro-Spinal Meningitis is not a very suitable one for this affection, being "too much of an anatomical bias, and an incomplete appreciation of facts." Notwithstanding, they have never rectified the name, except in applying such synonyms as petechial fever, spotted fever, malignant pupuric, fever febris, nigra-malignant meningitis, typhoid meningitis, etc., etc., none of which seemingly express as much as the former, being certainly more destitute of the anatomical peculiarity, or proper appreciation of facts, inasmuch as all, or nearly so, are derivative from some one or more symptoms that are not at all times present in any single case. But, in fact, there is nothing in a name. Not one of us would treat disease according to what it might be styled, but address our remedies towards its cure through their application to the symptoms. The definition of Cerebro-Spinal Meningitis, as adopted by Clymer, is that of an "acute specific disorder commonly happening as an epidemic, general or limited, and rarely sporadically; caused by some unknown external influence of sudden onset, rapid course, and very fatal. Its chief symptoms, referable to the cerebro-spinal axis, are great prostration of the vital powers, severe pain in the head and along the spinal column, delirium, tetanic and

some times clonic spasm, and cutaneous hyperæsthesia, and in some cases stupor, coma, and motor paralysis, attended frequently with hæmic spots. Its morbid anatomical characters being congestion and inflammation of the membranes of the brain and spinal cord, although there is reason to believe that the evidence of these changes may be wanting even in cases of long duration." Of its history little is known prior to the beginning of the nineteenth century, it having occurred probably both in this country and Europe without being recognized as a special disease of epidemic tendency until 1806, when it appeared at Medfield, Mass., as a distinct epidemic, and continued to appear as such through all the New England States until 1816. From this period until 1860 casual endemics, with sporadic cases here and there have occurred through all the Southern and Western States; also from 1814 to 1857 circumscribed epidemics appeared in various parts of Europe.

Dr. Woodward, of the U. S. Army, and Dr. E. S. Gaillard, of the Confederate Army, both report the existence of the disease in their respective armies during the entire war, subsiding and reäppearing at intervals; and many civilians fell victims to the disease in those cities South at which troops were stationed. In 1849 it appeared in Spain; from 1854 to 1861 in Sweden; in 1863 and 1864 in West Prussia; in 1866 in Dublin; and latterly it has prevailed in all the States of the Union, from Maine to Texas, and from the Carolinas to the Pacific; but its extensiveness among any population has not been in accordance with its wide geographical range; most generally confining itself to circumscribed localities within any one place. The morbid anatomy of Cerebro-Spinal Meningitis, as described by Upham, Tourdes, Stillé, and Aitken, are opalescence of the upper surface of the cerebrum, vascularity of the membranes of the brain, chiefly of the pia mater, with a large increase of serum, mixed with flocculi of lymph, in the subarachnoid space and ventricles, with exudation of semi-coägulable lymph on base of brain, and medulla oblongata; a similar condition also exists in the spinal canal. These morbid appearances are found where

death occurs a few days after inception of disease; when the disease has been of longer duration a cheese-like exudation is sometimes found of some two or three lines in thickness in close proximity to the meningeal vessels. In many of the cases reported the brain and spinal marrow have occasionally been implicated. The cerebrum having been found punctated, and vascular, with both softening of it and cerebellum. Mr. Rollet remarks, "that in those cases in which the substance of the brain is affected, there is a tendency to intermission, or at least remission, which alternates every three hours with an exacerbation"; this though he regards "as a characteristic symptom of the part affected, and not of malarial origin." In addition to the brain, spinal cord, and their membranes being the seat of disease, morbid changes from inflammation have been found in the alimentary canal, of which some pathologists have attached much importance, whilst others thought them merely accidental occurrences. Also the lungs, pleura, heart and its investments, have been involved during the progress of the disease. The heart has been found with its left side empty, and right filled with large fibrinous clots. "The blood during life, when drawn," according to Dr. Ames, of Alabama, "would form large loose coăgula, in which all the red globules were rarely included, the serum separated slowly, and in small quantity; the color was in general bright; in a few cases approaching arterial blood," as per analysis of Mr. Tourdes. There was an increase of red globules and fibrin. The symptoms introductory to this disease are generally both formidable and sudden, being mostly ushered in by a severe chill, followed by increased heat of surface, with pain in the head, extending down spine, with feelings of soreness or stiffness about the muscles of the neck, and again with heat of head, cold extremities, delirium, clonic spasm of limbs, flushed face, expressionless eye, with both dilated or contracted, or with one dilated, the opposite contracted, or occasionally the patient is attacked with double or triple vision, coma, more or less stupor, or again with pain in abdomen, accompanied by nausea and vomiting,

cold bluish extremities, pulse thready. But whatever may be the initial symptoms, they are succeeded in a short time by clonic spasm or coma. I'll just here narrate my observation of the symptoms of this disease as they appeared in two sporadic cases under my care in 1867 and 1868. Having kept but incomplete memoranda regarding them, I can of course give but a rough outline.

The first was that of a child two years of age, in whom the development of the disease was gradual, having its beginning in a chill accompanied with nausea and vomiting, and crying as if in pain, followed by feverishness, succeeded in twenty-four hours by delirium, restlessness, and clonic spasm of the extremities; body cold, head hot, tongue white but moist, pulse 130. This condition continued for four days, when the child manifested signs of improvement in a returning appetite, an abatement of the febrile symptoms, discontinuance of spasm, etc., paralysis of left side now became apparent, notwithstanding which it continued to convalesce, and seemingly was getting well, until eight months thereafter, when it died from softening of the brain. The other case was that of a boy, aged twelve years. Whilst playing, suddenly fell as if attacked by apoplexy, remaining quiet and comatose for half an hour, followed by a constant muttering, and clonic spasm of limbs with occasional tetanic of opisthotonos variety; jaws locked, skin at periods both dry and moist; bowels bound; temperature of body from 99° to 103° F. There was no eruption. Patient died in thirty-six hours. Constipation, cephalalgia and rachialgia are almost constant symptoms, and require but a passing notice, being more or less severe in different cases. The pulse is but a poor guide in determining the nature or severity of an attack, being variable both in volume and frequency; but in the greater number of cases thready and weak, becoming intermittent in those assuming a fatal tendency. The temperature of the skin, as reported by Dr. Stillé, varies between 100 and 105° F. Dr. Charcôt has made out the thermic periods for diseases of the cerebro-spinal axis, which, in my opinion will be found

to correspond more accurately with the facts in the case as the disease is presented to us this season. First, a rise to 100° F. from the normal standard. Second, oscillation between the normal temperature and 100° F. Third, a rapid rise to 105° F. and upwards, immediately before death. As the eruption upon the body is by no means pathognomonic, and in fact I believe more frequently absent than present, I shall pay but little attention to *it*, merely mentioning that it may be from an ecchymosis to a pustular variety, and that when it does appear, 'tis generally within the first day or two. The duration of an attack may be from a few hours to several weeks, as deaths have been reported in as short a time as three hours. Should convalescence occur, the patient is susceptible of relapses, and many, painful and unpleasant sequelæ, of which paralysis, I believe, is the most serious. The mortality, as declared by Stillé, Hirsch, and others, is from twenty-five to seventy-five per cent., the larger of which, I think, equals the percentage of losses sustained here, during its prevalence, since its inception at St. John's College in the latter part of the month of February. For instance, out of twenty-nine cases reported, we have had a fatal issue in twenty-one, with two cases undetermined (19th of April). The prognosis is therefore very unfavorable; especially is it so within the first five days. As for the diagnosis of cerebro-spinal meningitis, the symptoms, even in the initial stage, all point to lesion of cerebro-spinal axis; so that in recollecting its physical diagnosis, we readily discover perversion of contractile discrimination, perversion of temperature, and structural perversion of the eye. Through this last much might be determined with the assistance of an ophthalmoscope. Now, with derangement of one or more of these conditions always apparent in any single case, it seems quite improbable that any one with good discriminating judgment should confound it with any other complaint. It has been likened unto typhus fever, but its diagnostic differences are many, and would occupy too much of our space to point them out.

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The cause is very plainly acknowledged by all as unknown, but presumed of course as some special disease agent, which does not convey contagion with its spread, possibly a something of a malarial character, as it is thought. Whatever it may be, it is of external influence; it is certainly neither heat nor cold, as the disease has appeared very nearly as often at one season of the year as at another.

In entering upon the treatment, it is with a feeling of regret and mortification that I have to assert its very unsatisfactory character. Many and numerous experiments have been made upon a scientific and empirical basis, without as yet evincing any special mode of treatment as preferable over another, and this I am fearful will continue to exist, until pathology, through the aid of analytical organic chemistry, discover the morbid cause. But to the treatment, venæsection is recommended in its beginning, where there is no prostration or coma. There is an article in the "Richmond and Louisville Medical Journal" for this month (April) where the author, in reporting a case, says he pushed the bleeding twice to syncope, removing from thirty-five to forty ounces at each sitting, and this at an interval of five hours. This case recovered (yet there were very few well-marked symptoms of the disease), and I presume in consequence he recommends the indiscriminate use of the lancet; but he assigns as a reason that the poison, whatever it may be, "acts as an irritant to the vaso-motor centre, producing contraction of the arteries and increased blood-pressure in the heart," and through said blood-letting "relieves congestion of lungs, liver, stomach, and hyperæmic meninges, and lastly a threatening paralysis of heart"; and if his theory is correct, that the materies morbi acts directly upon the vaso-motor centres, bleeding is certainly indicated; but I'll venture to assert that his theory is based upon an erroneous conclusion. The condition of the organs as described by him are but sometimes complications in the treatment of the disease, or found to exist post-mortem. And again, why should the disease be more confined to the motor than the sensory system, when we consider

the part affected? The symptoms do not warrant us in the belief that one is more involved than the other, except in a few special cases. In fact, blood-letting as an indiscriminate remedial agent would, in my opinion, inflict more injury than its benefit in a few cases could counterbalance. The treatment, according to my judgment, when reasoning upon hypothetical grounds as to cause and effect to accomplish most, would be by whatever means possible to equalize the circulation, eliminate the poison from the blood, where presumption locates it, and to nourish and support the system whilst Nature performs the balance. The first and somewhat the second of these indications are met in the administration of hot hip-baths two or three times in the course of twenty-four hours, continued daily, and to be followed in two or more hours after each one, with as little exposure of person as practicable, with stimulating embrocations to trunk of body and limbs; next, to apply counter-irritants, such as emplast. cantharides, collod. cum cantharides, or comp. tinct. iodine, back of head, neck, and down spine; opening bowels soon after first seeing patient with a stimulating enema of castor oil, oil of turpentine, and assafœtida, to be continued daily, as the necessity for keeping them open may demand. The medicine I should give internally would be bromide of potass, in combination with opiates, sufficiently to keep the patient under a sedative influence, and whatever other influence the bromide might exert.

According to J. H. Bill, United States Army, this sedative effect is brought about in a decrease of carbonic acid gas eliminated through the lungs, and which is still retained in the blood, it being really the sedative, and not the salt; and furthermore, that it is not a physical action, but a vital cause that acts through its effect upon nervous influence, limited to mucous membrane of the lungs. In other words, that "bromide of potassium, in its legitimate action, is an anæsthetic to the nerves of the mucous membranes, and a depressor of their action, and that hypnotic effects are secondary."

Dr. B. W. Richardson's experiments resulted in his promul-

gating the belief that "bromide and its salts might be considered a medicine, acting *primarily* upon the sympathetic or organic system of the nervous system," and as a modifier of vascular tension, and this whether applied locally and directly, or generally and indirectly." Now whether this sedative influence be appreciable through its action upon mucous membranes or attributable to its direct effect upon the brain, inasmuch as Dr. Bill further remarks, having partly proved by experiment and partly assumed its anæsthetic effect, when applied to the peripheral expansion of a nerve, says extend this inquiry: "If bromide changes cell nutrition, or produces anæsthesia in a nerve expansion, why not in ganglion, or ganglia? If it can prevent a nerve receiving or transmitting a sensation, why cannot it prevent the centres from appreciating and acting on the sensation? why cannot it reduce them to passivity—to sleep? When we take these views of its sedative action in conjunction with its property of modifying vascular tension, lessening the active hyperæmia of the meningeal vessels resultant from an attack of this disease, do you not agree with me, that in combination with opium, which is claimed to possess so beneficial an influence, and promoting more cures than any other remedy, without any physiological reason to base its reputation upon, and only empiricism as a why or wherefore for its use, that probably the mortality in this dreadful disease might be lessened through its timely and judicious administration?

Dr. L. P. Yandell, Jr., mentions in an article upon the "Therapeutic Action of Bromide of Potassium," two sporadic cases cured by himself through its timely administration. He thinks the inefficiency of the drug in many cases is due to the insufficiency of the dose, or inadequate dilution by this last; he means, that instead of obtaining relief, you frequently induce great suffering through its irritant action on the stomach, as a small portion put upon the tongue and permitted to remain will induce soreness. For the satisfaction of those gentlemen who may be advocates of the opium treatment exclusively, I will state that from experiments with the two combined, that rather

than destroy the hypnotic or anodyne effect of the opiate, it heightens both, and more particularly the latter.

In pursuing the treatment to meet the third and last indication of support and nourishment of the system, it seems to me we should be very cautious in the use of stimulants, not though to their exclusion, but rely for the accomplishment of most good upon our dietary (milk and beef-tea). This last, if not tolerated by the stomach, should be given by the rectum. If I thought stimulants were of use, would prescribe egg-nogg, egg-flip, milk-punch, etc., etc. And now, gentlemen, should my treatment have resulted in nothing more than the procurement of rest, from struggling, and relief from pain, with time for Nature to endeavor to rid herself of the obnoxious cause, I have the satisfaction of knowing or believing I have mitigated the suffering of my patient, and given him the benefit of a somewhat scientific treatment.

ART. III. — VARICOSE VEINS — TWO CASES SUCCESSFULLY TREATED WITH INJECTIONS OF PER SULPHATE OF IRON. By A. D. PRICE, M. D. [Read before the Central Kentucky Medical Association April 17, 1872.]

We desire briefly to call your attention to the consideration of the important, if not inviting, subject of varicose veins. It is a disease that should ever claim your consideration, because of its great importance, of its comparative frequency among certain classes, of the inconvenience and not infrequent dangers to which it often subjects the patient, and because of the varied results that have attended the many and widely different methods of treatment.

When we consult the standard works on surgery upon this most important and interesting subject, we are struck with the small space devoted to its consideration and with the strictures upon and the dangers of operative interference.

Being able to add two cases to the list of successful cures, must then be our apology for this trespass upon your time.

Varix is described in the books as an enlarged, irregularly dilated, tortuous and elongated condition of the veins. It is a disease of adult life, and is generally found among the laboring classes and those whose occupation requires them to be on their feet most of the time. Such as bankers, merchants, clerks, etc. Nor does the pregnant female escape, for this malady is occasionally added to her other many sore trials.

The disease may be found in any part of the body; very frequently in some, exceedingly rare in others. It affects both the deep-seated and the superficial veins, though much oftener the former. It is rarely found upon the face, occasionally upon the upper extremity, and seldom in the deep-seated veins, as the jugular, subclavian, vena-cava, etc. Sometimes its seat is in the abdominal parietes; again, it is found in the spermatic cord constituting varicocele; and frequently the hæmorrhoidal veins are affected, giving rise to *piles*, a disease for which it is so easy now-a-days to find specifics. But its most frequent seat is the superficial veins of the leg, and of these the tributaries to the saphenæ.

Varix of the upper extremity is exceedingly rare, so rare that Brodie met with but three such cases, Velpeau two, and Petit one. Of this infrequent location of the disease, it has been our good fortune to witness one case. The subject of it was a strong, robust negro man, who had served three years as a private soldier in the late war. When he came under our observation his heart was greatly hypertrophied, the mitral valves were diseased, and the superficial veins of right arm, from shoulder to wrist, were extensively varicosed.

Not desiring to treat the subject generally, our few remarks will be chiefly confined to varicose veins of the leg.

The veins of the leg are conveniently and properly divided into the superficial, deep and inter-communicating. The deep veins have a number of valves, the superficial but a few, the internal saphenous numbering, according to Gray, from three to six, and the external but two. The saphenous radicles have but a limited number of valves, some being entirely devoid of them.

The inter-communicating branches have no valves proper, but the muscles and the fascia through which they pass from one set of veins to the other "are formidable barriers to the return of the blood after it has once passed them in the direction of the current."

In our search for a satisfactory cause of the disease, we are often perplexed, and our perplexity frequently leads us into doubt. That anything obstructing directly or indirectly the return of venous blood, will give rise to a varicose condition of the subjacent part, is patent enough. But this mechanical cause will account for only a small number of the cases that come under our observation, and it is therefore necessary that we look for a more adequate and satisfactory explanation. And in doing this, it is well to remember a few facts concerning the saphenous system—viz., that it is a "reservoir to the deep veins," being a safegurd to their over-distension; that the capacity of the "trunks is much less than that of the sum of its branches;" and that "through the agency of certain foramina, the saphenous, the femoral ring and the triceps opening, the flow of blood is regulated," the surplus quantity being intercepted and retained in the saphenous system, which constantly accumulating force the powerfully valved trunks are able to resist," but to which "the feeble and unvalved branches" have a greater or less tendency to yield.

Bearing in mind these anatomical facts, we will be at no very great loss in accounting for the disease if we but take into consideration the following view of its pathology, condensed principally from the writings of others.

There is, in all probability, a natural predisposition to the affection. It may be some disease of the veins, a chronic inflammation of the vessels, or a fatty degeneration of their muscular coats, which, in connection with a probably diseased condition of the blood favoring a slow and retarded circulation, will cause the veins to yield to a greater or less extent to the constant pressure from within.

There is sometimes, according to Gross, a varicose diathesis,

the principal veins becoming tortuous and irregularly dilated. In all such cases the above-mentioned conditions will doubtless be found more or less actively at work.

The disease is generally slow and gradual in its development, though sometimes very rapid, as in the latter months of utero-gestation. Owing to the negligence of those who are thus afflicted, we seldom enjoy the privilege of studying the disease in its early stage. The patient does not, as a rule, seek advice from the proper source till pain, or great inconvenience, or the fear of impending danger drives him to a deed so *rash*.

When good sense and judgment prevail, and our opinion sought, we find that the disease has, though its starting point may have been in the deep veins, its seat in the branches of the saphenæ which are, "through being overtaxed by excess of the functional requirements," irregularly dilated, convoluted, serpentine in their course, with diameter increased and length augmented. The condition of the vein is variable, sometimes so thin and dilated in parts that rupture seems inevitable; again there will be portions presenting, here and there, a normal appearance; and again, the coats occasionally become so hard and elastic that the vessel rolls under the finger, and even resists the knife with a grating noise.

The disease is also variable in its course, sometimes slow, at others rapid; occasionally its progress ceases to remain so, or to resume after a time its onward march with renewed energy.

The effects of the disease depend upon the degree of varicosity, its duration and intensity. In mild cases only a slight inconvenience is the result, but it is quite different in those of a severer character and whose progress is more or less advanced; and the sources of annoyance are more than one. The blood accumulating in undue quantity in the limb renders it œdematous, heavy, clumsy, and inconvenient, causing locomotion to be performed with more or less pain and difficulty; the neuralgic pains which are at times quite severe make the disease almost unbearable; the ulcers that form here and there add to the already existing misery; the occasional clotting of

blood, with inflammation and abscess following, is a result of no small importance; and the sudden, copious and dangerous hæmorrhage that is liable to occur from a ruptured vein, presents no pleasant picture to behold.

The treatment of varicosity resolves itself into palliative and radical; upon the former, the Profession is united, but concerning the latter there is a wide and fearful difference.

By palliative treatment we aim "to prevent further enlargement and induce contraction of the distended veins." To accomplish these objects various appliances have been devised, but all are more or less imperfect, and the best of them become by the unequal pressure, sooner or later exerted, the means of increasing the evil they were intended to remedy. So annoying is their appliance, so unsatisfactory their result, that the patient soon becomes discouraged, and prefers the risk of operation to their continuance.

Perhaps it would not be amiss to allude, before proceeding to the consideration of the radical treatment, to the so-called varicose ulcer.

It is not our purpose to enter into its pathology, but simply to state that the varix and the ulcer do not, as is generally supposed, stand in the relation of cause and effect. The condition of the ulcer then will not be uniform, but found to vary, presenting different characters under different circumstances. If there is any form to which it may approach, it consists in being somewhat excavated and in having an edge more or less raised and indurated with a process of ulceration going on underneath.

John Bell says, in a foot-note in his work on Surgery, "that it is impossible to be serious while we enumerate the thousand remedies which have been applied to ulcers; not that our disappointment in removing so afflicting a complaint can be matter for ridicule, but the vain boastings of self-sufficient inventors are so. Ulcers have been dressed with precipitate, calomel, alum, vitriol, zinc, verdigrease, pulvis sabinæ, and other devilish drugs."

And what was applicable in those days will fitly apply to the

Profession now. We could present you with a long list of healing lotions, valuable salves, and numerous articles of the materia medica that have been vaunted as suitable applications, safe remedies and reliable cures for all kinds of ulcers; but this would be only a matter of idle curiosity, and no compensation for the time consumed. What we most desire to know, is how best to treat the ulcer. This, we are informed by some, is most effectually accomplished by curing the varicosity, to which we in part subscribe, substantiating it further on by the result of the treatment of the two cases that came under our observation.

The true method of treating the ulcer *per se*, we conceive to be the making of several vertical incisions through the indurated border, and then applying adhesive strips over the ulcerated part with a firm and even bandage extending from the toes to within a few inches of the knee. This method will, in connection with opium to allay irritability, prove to be as satisfactory as any other, accomplishing all that can be reasonably expected.

The radical treatment of varix consists in producing in the vein a coăgulum that will form a fibrinous plug, obliterating its calibre, and thus effecting a cure. The means of accomplishing this have been and are numerous and widely different.

The first method of radically curing varix consisted, so far as we know, in making incisions into one or more parts of the dilated vein, in turning out coăgula should there be any, and in restraining hæmorrhage by pressure, hoping thus to excite inflammation and secure a degree of plasticity that would result in a cure.

Then next came extirpation, which consisted in cutting out the diseased portion of vein and arresting hæmorrhage by pressure, or with the ligature. These, happily, soon fell into disuse.

The operation that has found most favor with the Profession, is that of ligating the vein. From a very early time to the present this has been more or less popular, has undergone vari-

ous modifications according to the particular fancy of the surgeon, and has been at times attended with marvelous success, at others the results have been anything but flattering to the operator or encouraging to the Profession.

We remember hearing a most distinguished and conscientious surgeon say, in a clinical lecture, that the ligature was perhaps the best method of treatment, and that the results were, with proper care, not so much to be feared after all. He used the silk ligature, introducing it under or through the vein, as it may happen, and tied it over a fold of cotton cloth laid along the course of the vessel. The patient was then put to bed, a poultice applied, the leg elevated, and quietude enjoined. Such was his treatment, and the results were always good, never an untoward symptom. This procedure has, as we have said, been variously modified. Instead of the silk ligature, silver wire has been used; and again the ligature has been made to encircle the vein and exit at the point of entrance.

A method of operating that has been and is still much in vogue, consists in passing a pin or needle under the vein and securing it with a suture over the vessel. This has likewise been moulded to suit individual fancy. Mr. Wood passes a needle in front of the vein, and a double metallic wire behind, which is securely twisted over the ends of the needle. No hæmorrhage follows, and abscess is very rare.

The vein was formerly cut through above and below the dilated part, and a tent introduced to prevent union. This dangerous practice Brodie modified by making subcutaneous division of the vein, but his testimony is far from being of a flattering character.

The caustic application is still highly prized by some; at first the skin was cut through and the vein laid bare, to which the cautery, either the actual or caustic potash, was directly applied; but the resulting ulcers were so severe that the appplication came to be made to the skin over the affected part; and the cure, when effected, was the result of inflammation in the cellular tissue around the vessel. Brodie's testimony is graphi-

cally set forth in the following words: "The application of the caustic potash was very painful; the slough took a long time to separate; the sore took a long time to heal." Gross prefers and recommends the caustic issue, saying that it is "always perfectly successful and entirely free from danger."

A good modification of the caustic treatment consists in Froriep's method of applying a compress wet with concentrated nitric acid over the affected vein till the skin becomes inflamed and the cellular tissue indurated, and repeating the application from time to time till a cure results.

Electricity, an agent that is now promising much in all the departments of medicine, has been called into requisition in the treatment of this affection. Jasche reports ten cases cured in a few weeks. He introduced the needle through the vein, and applying the positive pole to the needle, and the negative to the tongue, continued the current for fifteen or twenty minutes. The blood was firmly coägulated, and the disease cured.

The manner of treating this troublesome affection, to which we desire especially to call your attention, consists in producing a firm coägulum by injecting a solution of persulphate of iron into the vein. We do not maintain for this method absolute freedom from danger, because we may expect bad results in cases where there are concomitant diseases; a vitiated condition of the blood, broken-down constitution, etc. In such we may not be surprised, whatever method is adopted, in having to contend with erysipelas, phlebitis, or pyæmia, complications that always produce much suffering, and frequently end in death. We are aware that a great danger, and perhaps the greatest, is that a portion of the coägulum may become detached and carried by the current to other portions of the body, lodging in important structures, and producing serious results. But that such is more liable to result from this than from other methods of radical cure, we are not prepared to affirm or deny.

The operation has at least three advantages, that it is easily performed, and need give but little pain, and that the only instrument necessary is an ordinary hypodermic syringe.

The first case that came under our care was S. S., colored; aged forty-five years; married; mother of several children; and of scrofulous diathesis. In the early part of 1862 her left leg was noticed to swell whenever she took considerable exercise, the veins becoming largely distended and tortuous. The leg would, upon sufficient rest, be reduced to its normal size, to undergo the same process on taking too much or too violent exercise.

During the summer of 1867 an ulcer formed just above and behind the external malleolus. This healed under the use of sulphate of copper; but others still higher up and extending almost around the leg soon followed. These were variable in their course, sometimes extending rapidly, at others taking on a healing process that was never completed.

There was in January, 1869, considerable hæmorrhage from a ruptured vein, which was readily controlled by pressure. She came under our care March 20, 1869. The veins of left leg were full, knotty, dilated and tortuous; there were a number of ulcers not only resisting medication, but increasing; the skin around them being rough and scaly; the leg was œdematous and so unwieldy that she walked with difficulty, and experienced considerable trouble in performing her duties as house-servant. Applying a compress over the saphenous vein to distend as much as possible its branches, we injected by means of the hypodermic syringe a few drops of the undiluted solution of persulphate of iron into the affected vessels at three different points, selecting the most dilated portions. The operation gave but little pain, and firm coägula were the immediate result. The compress was removed, and the patient put to bed.

March 27th she suffered no pain; hard lumps at and extending for some distance around the points of injection; no swelling in leg; ulcers almost healed; walks without any difficulty. She went on doing well, and perfect cure was the result. She came in our office last August, having walked fifteen miles to attend a Methodist Conference. There had been no return of the disease.

The second case was that of L. T., colored; aged forty years; mother of thirteen children; house-servant; corpulent; habitually constipated; she has a mitral regurgitant murmur and enlargement of the heart.

In 1849, after birth of second child, the veins on dorsum of left foot and outer part of corresponding leg became enlarged, irregularly distended and tortuous, giving more or less trouble. A few years after this she slipped through a loose plank floor, knocking a portion of skin off the affected leg. An ulcer formed at the seat of injury, others followed at different times and at different places, healing on rest or during cold weather, soon to break out again. The veins remained tortuous and irregularly dilated from the beginning, and from the occasional rupture of which there was hæmorrhage more or less severe.

August 30, 1869, she has severe pains in her leg, but manages to do her work as cook for a large family. The veins on dorsum of left foot and outer portion of corresponding leg are tortuous and much dilated in places, at which the skin is so thin and tense that rupture seems imminent. On outer portion of the left leg and in the neighborhood of the malleolus there are three ulcers excavated, with rounded and indurated edges. The ulcers are very painful and annoying, and have resisted a variety of medication. The patient was prepared as in the first case, and the same solution injected into the vein at three different points where the distension was the greatest. The pain was slight, and the blood coägulated immediately.

August 31st; she slept but little last night, owing to the pain in her leg, which was quite severe, but which is much mitigated this morning. There is a hard, firm swelling at the point of injection; foot less swollen than it has been for years; ulcers coated with a glazed-looking exudation; leg hot; pulse accelerated; appetite good. Ordered a saline aperient, the constant application of cold water to the limb, and the ulcers to be frequently bathed with a weak solution of sulphate of copper.

September 2d, heat of leg less; pain slight, ulcers healing rapidly; has been walking about the room, contrary to orders.

September 7th, walks with but little difficulty; old ulcers continue to heal, a new one has formed at a point of injection; skin getting soft and beginning to assume natural appearance; foot and leg, when first up in the morning, reduced almost to natural size, but commences to swell towards evening.

September 17th, old ulcers all healed; foot and leg reduced to natural size; walks without difficulty; ulcers formed at all the points of injection. Ordered to be dressed with a solution of permanganate of potash. She continued to do well, and when we had the opportunity of examining her again (September 27th, 1870), the ulcers resulting from the injections had long healed; the foot and leg were of normal size, and locomotion was unimpaired. She had been rendered comfortable and enabled to earn an honest living.

In reviewing these two cases we perhaps have cause for congratulation. The result, save the ulceration in the second case, was all that could be expected, notwithstanding the imprudence of walking too early; one on the third day, the other before the expiration of the first week.

Had we the time and you the patience, it would be pleasant, as well as profitable, to collate the recorded cases treated after this method; but having made our essay, imperfect as it is, longer than was intended, we conclude by saying that it is perhaps as safe and effectual as any method that has yet been devised.

ART. III.—CEREBRO-SPINAL MENINGITIS. By F. P. WHITEHEAD, M. D., Vicksburg, Miss.

At half-past 3 o'clock, A. M., May 15th, I was called to see Willie F., a robust child ten months old. For three days he had been suffering with severe catarrh. For several hours before I was summoned he had been very restless, crying and fretting as if in great pain. When I arrived he was in great agony, not quiet a moment, tossing from side to side,

with his head drawn back upon the neck; pulse full and frequent; skin hot and dry. I ordered two drops of the fluid extract of gelseminum; this produced a few moments' quiet; in a half hour I ordered *three* drops more; this was followed by a somewhat longer period of repose. In half an hour more I ordered *four* drops, after which he fell into a short sleep. I continued the remedy in the last-named dose every half hour or hour, according to symptoms, until half-past 8, when, in addition, I commenced bathing the child's head, face, neck, and hands in cold water; this was very grateful to him, and greatly assisted in quieting him. At 11 the child was decidedly better, his paroxysms of pain less severe, and the intervals of repose and sleep longer. I applied a blister (one by four) on the cervical vertebræ, and immersed the feet into a hot mustard bath. At noon he was sleeping perfectly quiet, the head no longer drawn back. This continued with but few interruptions, and then promptly relieved by the extract until 9 P. M., when it required another foot-bath and *five* drops of the extract to quiet him. He awoke almost every hour during the night, but a few drops of the medicine put him to sleep again immediately. Two or three doses during the day of the 16th was all that was required to keep him quiet, and at night he slept well without anything. On the morning of the 17th I pronounced him convalescent, and on the 18th he was quite well, with little or no sign of having been sick.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—REPORT OF TWO CASES OF INVERSION OF THE UTERUS, WITH REMARKS AND A DESCRIPTION OF THE UTERINE REPOSITOR. By JAMES P. WHITE, M. D., Professor of Obstetrics in the Medical Department of the University of Buffalo. [Read before the Medical Society of the State of New York, February 6, 1872.]

The *Eighth Case* of inversion of the uterus, which has been

treated by me, occurred near Ithaca, Tompkins county, N. Y.

The following is an extract from a letter received from Dr. H. B. Chase, of Jacksonville, who was then in attendance upon the patient:

"The case is as follows: Mrs. R., aged twenty-seven years, of a good constitution, was delivered on the morning of the 25th January of her first child, after a tedious labor of eighteen hours, when her medical attendant discovered that the placenta was adherent. Severe hæmorrhage came on when the doctor separated the placenta from the walls of the uterus and withdrew it with his hand. Immediately (so he says) he discovered a large solid tumor in the vagina, accompanied by still more profuse hæmorrhage.

"Four days after the accident I was called to see the patient. On examination I found the uterus completely inverted. The os uteri could be felt at the superior extremity of the tumor. The uterus, at that time, hard and unyielding and filling the vagina. I made an effort to reduce it, but failed. I felt quite sure that reduction was impossible at that time. And now, doctor, the question I would ask is: Can anything be done to restore this poor woman to health and usefulness again?"

My reply to Dr. Chase's inquiry held out the hope that it could, by suitable manipulation be restored. Accordingly, in compliance with an invitation contained in a subsequent letter, I visited the patient on the 27th of February, not quite five weeks after the accident.

I found her very exsanguine and feeble, constantly losing blood, and at times bleeding profusely. The uterus had not completed its involution, though it was nearly as small and firm as in the normal condition of the organ in the multipara in its unimpregnated state. The perineum had been lacerated during the labor, and the hand could be easily introduced into the vagina and up to the neck of the uterus. The inversion was found to be complete, although the uterus did not protrude beyond the vulva.

The bowels had been, by my direction, freely evacuated the

same morning, and, after drawing off the urine, I proceeded to reposit the organ, in the presence of Drs. Chase, Lewis, White, and Carrington and Mr. George Rightmire medical student, who has furnished a partial report of the case in the "Buffalo Medical Journal" for April, 1871. Requesting one of the gentlemen to take charge of the anæsthetic, whilst two others were seated beside the bed, each holding in his lap a foot, supporting with one hand the knee upon his side and holding firmly the patient's hand upon the same side, with her hips brought to the edge of the bed, I placed myself upon my knees and commenced the operation. Carrying my right hand into the vagina, I seized the entire organ and manipulated and compressed it firmly for a short time, to expel the blood and render the tissue flexible. This pressure was continued, with the hand within the vagina, during the entire process. I now commenced pushing upon the fundus, with a large rectal bougie, alternating with the thumb and fingers of the left hand and thus put the vagina upon the stretch. This process, through the attachment of the vagina to the inverted uterus, pulled open the os and reflected it upon the neck. Thus it will be perceived, as I have heretofore described, the process of restoration was from neck to fundus. The fundus was at no time perceptibly dimpled or doubled in upon itself. By continuing this process steadily and gently, occasionally placing the fingers of the left hand over the hypogastrium and through the thin walls of the abdomen, inserting them into the opening os and making traction and pressure, I found the organ passing up through the neck and assuming its normal position. At the expiration of twenty-three minutes from the time of commencing the operation, the uterus was completely restored. The loss of blood was small, and the only noteworthy peculiarity in the case was the *doughy feel* of the organ in this state of involution. It did not possess the firmness of normal uterine tissue in the unimpregnated state, nor the muscular flexibility of the recently delivered organ; but had a doughy feel like organ undergoing fatty degeneration. Indeed, I am induced to suspect that, at

this period after delivery, the uterus cannot be subjected to manipulations without danger of laceration, which would be perfectly safe at a later period, after complete involution had taken place. It is the only case which has fallen under my observation between the third and the eighth week, and the sensations occasioned by pressure and other manipulations were such as to excite apprehension lest the tissues would yield under the fingers.

The patient soon recovered from the effects of the anæsthetic, and I left her, a few hours after, sleeping comfortably under the influence of an anodyne. Since that time she has under the care of her attending physician, Dr. Chase, gradually convalesced, and is now in "good health."

CASE IX.—The following history is taken from notes furnished by J. W. Stewart, M. D., the attending physician:

"Mrs. E. A., of Port Dover, Canada, aged thirty-four, was delivered of her second child on the 7th of October, 1870. The case for the first seven days I had no personal observation of, but will give a brief history as I learned it from the patient herself and her friends who were attending her, the correctness of which I do not doubt.

"The labor was comparatively an easy one, lasting but three or four hours, and having no pains as usual for a few minutes after the birth of the child. The medical attendant, finding that the placenta was not expelled, made an examination, and said 'it was grown to the womb.' He caught hold of the cord, giving it two or three sharp jerks, and the after-birth came away. The patient, immediately after its expulsion, complained of violent and constant pain, and says she experienced a sensation as if 'all her insides had dropped down.' In a few minutes she began to sink, being bathed in cold perspiration, pulse running very rapidly. Her friends, being alarmed, asked the doctor what was the matter? He replied she was dying. After a time she rallied, but remained in excruciating agony up to the time I saw her—the eighth day after confinement. At my first visit I found her in the following condition: Tongue deeply

furred; very irritable and feeverish; pulse 155 to 170, very angular and weak; abdomen much swollen and so tender she could not bear the clothes to touch her. In a word, I found her laboring under a violent attack of metritis, the inflammatory action extending over the whole surface of the peritoneum. I learned that these symptoms had appeared three days previously, hourly growing more intense. I removed her bandage immediately, and applied turpentine stupes and warm fomentations, giving her large and repeated doses of opium.

"By my advice Dr. C. W. Coventer was called in the same evening and the next day. She described to us so accurately the symptoms of inversion of the uterus, taken in connection with the history of the case and her strange feelings, that we suspected the true state of affairs, and suggested an examination. This she positively refused, saying she 'was so weak and tender it would kill her,' and we were compelled to postpone it till the next day. The next morning I found her better, and the whole surface of the abdomen terribly blistered from the free use of turpentine. The inflammation and swelling were subsiding rapidly, and I insisted on making an examination; when I found the uterus inverted, and almost protruding from the vagina.

"Continued the warm fomentations, keeping her thoroughly under the influence of opium, with quinia, beef-tea, etc., etc.

"In a few days she improved wonderfully, and in two weeks we considered her strong enough to bear the operation, and attempted its reduction. We first brought her under the influence of chloroform, and then introduced the hand into the vagina, trying to reduce it by a kneading process with constant pressure. We succeeded so far, after two hours' constant labor, as to get the fundus even with, if not a little inside of, the os. We tried to keep what we had gained by inserting and inflating gutta-perch balls, which we had procured for the purpose. Next day she appeared to suffer very little from the operation; but the India-rubber balls did not come up

to our expectations, for the womb had dropped back nearly into its former position.

"About eight weeks after, we made a second attempt, but the result was less favorable than the first. I forgot to mention that, about midway between the first and second operations, she had another violent attack of inflammation without apparent cause."

Upon receiving an invitation from Dr. Stewart, I visited the patient on the 11th of March, 1871, nearly six months after the inversion. I found the woman very prostrate and anæmic, and suffering from constant copious leucorrhœal discharges, and frequent hæmorrhages. The uterus was completely inverted, with its fundus just within the vulva, and having fully undergone the process of involution. It was now as hard and firm as in the normal condition in the multiparæ. The bowels, by my direction, had been freely evacuated before my arrival, and I proceeded at once to make an effort to reposit it.

Placing her in the same position as heretofore described—upon the side of the bed, with her feet supported by Drs. Coventer and Salmon, I assumed my usual position upon my knees. Dr. Stewart, her family physician, was charged with the administration of the chloroform, and requested to produce profound anæsthesia. The first few minutes were chiefly occupied in compressing and moulding the uterus, rendering its walls more flexible, and in gently pressing up the organ so as to put the os upon the stretch and commence its dilatation. At this time the *uterine repositor* was introduced into the vagina, and its disk placed in contact with the fundus, and firmly held there by the intra-vaginal hand. The outer end of the instrument was placed against my breast, on the same level with the uterus. By means of the large circular spring, it readily kept its place, and left the other hand free to be used above the pubes to assist in forcing open the dilating os, which could be plainly felt through the abdominal walls. The spring at the outer end of the instrument enable me, without danger of lacerating the tissues, to keep up a constant gentle pressure upon the fundus,

and by leaning forward, to increase this pressure intermittingly. The force was exerted more directly upon the fundus by means of the repositor than was possible by the thumb or fingers, or by the round end of the large bougie. Pressure made through this spring is made more continuous than when made by the hand, and far less likely to lacerate the tissues. It was the first time I had used it, and I was delighted to find that it gave me a third hand, *which did not become fatigued*, and permitted me to use the left hand in manipulating the os in the hypogastrium; while the right hand easily held the instrument in contact with the fundus, and firmly grasped that part of the uterus not yet reflected, and remaining in the vagina. At the expiration of an hour and ten minutes, considerable progress had been made in reflecting the os down upon the body of the organ, when the patient seemed in some danger from the chloroform, and the process was for a short time suspended. The windows were thrown open, a little brandy was given by Dr. Hays, who was present, and in a short time it was again deemed safe to resume the operation. Remaining continuously in the same position, I resumed pressure upon the repositor, holding, with my left hand, the anterior reflecting surface of the uterus which extended further and further up into the abdomen. In one hour and twenty-three minutes from the time of taking my position, I had the pleasure of announcing that the organ was completely restored. As my associates had previously made much longer efforts, under circumstances much more favorable, they were at first incredulous, but soon verified my assertion, instituting, at my request, a careful examination.

Placing the patient comfortably in bed, and giving a full dose of morphia, she slept well that night, and I left her next morning feeling quite comfortable, and delighted with the prospect of being again restored to health and strength.

Nothing remarkable occurred during her convalescence, which, though slow, was uninterrupted, "riding out" during the month of April; and in the course of the summer she regained, I understand from Dr. Stewart, her "usual health."

Remarks.—These two cases complete a series of nine cases of inversion, varying in duration from a few minutes to fifteen years after its occurrence, which have been reduced, by the writer, by manipulation at a single effort. The first case was reported to the Buffalo Medical Society in February, 1856, and was only of eight days' standing. After giving a full account of the case, which was published in the "Buffalo Medical Journal" of March, 1856, the writer concludes with the following remarks:

"This case is regarded as interesting in many respects. It will encourage the growing belief among accoucheurs that reduction may be undertaken with reasonable hope of success, at a period much later than most writers have heretofore advised.

In the same article, alluding to a case of fourteen days' standing which had fallen under my observation in 1842, and in which no attempt at restoration was made, it is added: "With my present views upon this subject, I should abandon such a case as hopeless only after a long effort at reposition."

Fully convinced, from the result of the efforts made in this instance, eight days after inversion, of the feasibility of restoring the uterus in many cases heretofore considered irreducible, I did not meet with an opportunity of putting my convictions again to the test until the 12th of March, 1858, when I visited Mrs. M., near Hornellsville, who had been confined on the 23d of September previous, almost six months before; and after about one hour's continuous effort, succeeded in repositing the inverted organ. A full account of this case, with plates, and a description of the manner in which reduction was accomplished, was published in the July number of the "American Journal of the Medical Sciences" for 1858. Permit me here to crave indulgence for one word in relation to priority in this operation. It is true that Tyler Smith published his case April 24th, 1858, in the "London Medical Times and Gazette," forty-two days after my operation in Hornellsville, and more than two months before the report of the case made its appearance in the "Ameri-

can Journal of the Medical Sciences." But I submit, that, more than two years before, I had taken the initiative, and published my views and hopes. And I also insist that his subsequent success in April, 1858, could hardly have been known in this country on the 12th of March preceding, which is the date of my second operation. Upon this point I trust I shall be pardoned for gratefully quoting the following passage from the able article on this subject from the impartial and distinguished Professor of Obstetrics in the Medical College of Louisville.

"Before I proceed to do this (give an account of the method of manipulation pursued by Dr. White), it is meet that I should pay a tribute of honor to our countryman, Professor James P. White, who has not received the credit he so well deserves, for his leadership in the revolution of gynæcological practice, which he inaugurated. Even a superficial reading of the report* must satisfy any one that he regarded himself as a pioneer in his attempt to reduce, by the taxis, chronic inversion of the uterus, and that he was wholly unconscious that such a surgical feat had been performed either at home or abroad. Neither had it been so much as thought of at home, much less performed, nor had it been performed abroad in such a way as to attract professional attention or inspire confidence in it, until Dr. Tyler Smith, of London, published a case of twelve years' duration in the "Medical Times and Gazette," April 24, 1858, which, of course, could not have been known to Dr. White, whose case was successfully treated on the 12th of March immediately preceding, though not published until July following, the earliest time that it could be published in a quarterly journal."†

On the 24th of August following, in the presence of Professors

* Alluding, doubtless, to the case of 1858, and never having had his attention called to the one of January, 1856, reported in the "Buffalo Journal" more than two years before.

† Thoughts on Chronic Inversion of the Uterus, specially with reference to Gastrotomy, as a substitute for Amputation of the Uterus. By Henry Miller, M. D., "Richmond and Louisville Medical Journal," April, 1870, p. 14.

Austin Flint, Sen. and Jr., and Professors Thomas F. Rochester and Mason, I reduced an inverted uterus of over fifteen years' duration. This was accomplished in about fifty minutes, and with less difficulty than those of six months. It should be stated that the patient died on the 16th day after the operation, though it does not follow that her death was a consequence fairly chargeable to it.

An account of this case, as reported to the Buffalo Medical Association, will be found in the "Buffalo Medical Journal" for October, 1858, and from which the following paragraphs are cited:

"She improved rapidly, with no untoward symptoms during the succeeding eight days, and at the end of that time considered herself perfectly well. On the morning of the ninth day, however, after returning from breakfast, she imprudently strained considerably at stool, and was suddenly seized with violent pains in the abdomen. She was at the same time startled by the coming in of a friend whilst she was on the vessel. The mother and husband had left her a day or two before, considering her perfectly well. She immediately went to bed, sent for me, and died on the seventh day after of peritonitis."

In commenting upon the report of this case in the Association, Professor Austin Flint, Sen., holds the following language:

"I was present at the reduction of the uterus by Professor White, and also at the post-mortem examination. The reduction was effected with great ease, and under the moderate use of chloroform. He (Professor Flint) regrets, equally with Dr. White, the unfortunate accident which resulted in the death of the patient. The connection between the peritonitis and the operation did not seem to him to be very close; otherwise it would have supervened sooner. He did not think that it at all invalidates the success or propriety of the operation. The result will, perhaps, be thought to have more connection with the operation from an ordinary perusal of the case than really exists. But a careful review of all the circumstances seems to show that the peritonitis was merely an unfortunate accident," etc., etc.

Professor Rochester said, "there were some points which had not been sufficiently dwelt upon by Dr. White or Dr. Flint. The appearance of the uterus, on examination after death, plainly indicated that no undue amount of force had been used in the operation. . . . In regard to the occurrence of peritonitis, he thought that it was a most unfortunate accident. Three-fourths of the cases which he had seen occurred at this season of the year. There was no doubt but that the exhausting nature of the difficulty under which the patient had labored for so long, made the system more susceptible to the disease, and much less able to resist it. There was nothing in the appearance of the parts which would lead to the suspicion that the peritonitis commenced on the uterus; that it appeared to be a simple case of the disease. The greatest pain was referred to the epigastric region, and it was probable that this was its origin."

This case, of fifteen years, was much more easily reduced than the ninth case, just reported, and I am convinced that the opinion long since published by the writer that the difficulty of reduction is "as great immediately after complete involution, as at any subsequent period, however remote," will be found to be correct. I fail also to perceive why the *dangers* should be greater in consequence of delay, and hence my anxiety to prevent any erroneous conclusions upon that point which might be hastily drawn from the fact that this case terminated fatally, whilst those of six months recovered. The uterus, it is well established, completes the process of involution in from eight to twelve weeks. Judging from the cases of eight days, twenty-one days, and thirty-five days, the eighth case just reported, it is, in my opinion, far more likely that it will be found by careful subsequent observation that the tissues are more susceptible to laceration from the necessary manipulations, during the latter part of the period of involution, than at any other time. As intimated in the report of this, the eighth case, which was between five and six weeks after labor, the impression in handling the uterus was that it would be easily torn. It is, during

this change, neither muscular and flexible like the recently delivered uterus; nor firm and elastic like the unimpregnated organ. It will, I suspect, be found safer, in view of this condition, after about the twentieth day, to wait for the completion of this process, notwithstanding the increased difficulties of the operation occasioned by such delay.*

Observation and careful reflection—based upon the cases which have been committed to my charge, now numbering nine in all, varying, as already stated, in duration from a few minutes to fifteen years—confirm me in the opinion expressed in 1858. Indeed, my convictions are very decided, and I am incredulous as to the necessity of ever resorting to amputation, or the still more objectionable operation of gastrotomy. True, it may not always be reduced at a single sitting, as in all which I have encountered, but by means of the repositor, uniform and gentle pressure can be continued until the os is fully dilated, and the fundus pushed up through it. The insurmountable difficulty heretofore has been supposed to consist in our inability to maintain uniform and persistent pressure for a sufficient length of time. The hand soon became fatigued, and another hand, even of the same individual, could not be substituted without losing a part of what had been gained. This loss was increased when the hand of a fellow-practitioner was introduced to continue the operation. No doubt great physical endurance, being able to maintain one position for a great length of time, has been an essential element in success. The various substitutes which have heretofore been resorted to for continuing pressure, where the operator became exhausted, have utterly failed. The elastic bags, mentioned in the last case, used by

* Pages 102 and 103, Lectures by Priestly, on the subject of involution of the uterine parietes, says: "With the advance of the fatty transformations the uterus becomes, in a corresponding degree, friable, and continues so until it has completely returned to its usual condition. I have occasionally seen at the post-mortem examination of women, who had previously borne children, the uterine tissue affected by fatty degenerations, and so soft and friable that a sound passed into the uterine cavity might be readily pushed through the uterine walls."

Dr. Stewart, are a fair illustration of their inefficiency. They press more upon the large surfaces anteriorly and posteriorly situated, and in which they are in contact, than they do upon the fundus, which has no firm ossific base of support, as have the rectum and bladder. The uterus ascends very soon, owing to the yielding nature of the vagina, and escapes from the reach of the distended vaginal bags.

The repositor, when it is deemed better to proceed in a more gradual manner, or when it may be found impossible to reduce it at a single effort, can be received with the uterus into a large cylindrical speculum, and by means of a T-bandage, can be made to press directly upon the fundus until the os is gradually dilated and all resistance overcome. By means of the large spring at the outer extremity the amount of pressure can be graduated to an ounce. The disk will follow up the fundus by means of this continuous elastic pressure until it disappears in the os and neck. Any intelligent assistant can be trusted to increase or diminish the pressure during the absence of the practitioner, as the exigencies of the case may demand. The pressure which the repositor can be made to exert is equally as gentle and far more persistent than the tent of sponge or seatangle, or the wedges of Barnes, when applied to dilate the os for the purpose of examining the cavity, when the uterus is in its normal position. These are the views expressed fourteen years since; in the article in the "American Journal of the Medical Sciences," already alluded to, the following passage occurs:

"We are all aware that the os and neck of the uterus may, by sponge tents and other mechanical contrivances, be widely dilated when the womb is in its natural position and of ordinary size. The dilatation is frequently made by those who are extensively engaged in the treatment of uterine affections for the purpose of perfecting diagnosis or instituting treatment. Of the susceptibility of these parts to be thus dilated, and that, too, without much risk of injury to the tissues involved or the general health, no one at all familiar with the subject will deny.

What is the relation of parts in inversio uteri? Is not the vaginal sheath, which in the normal arrangements of parts was attached to the outside of the neck of the uterus, now, in the inverted state, firmly attached *within* the cavity of the canal of the neck of the uterus just at its orifice? The vaginal canal is securely attached at its lower extremity at or near the outlet of the pelvis, and, whilst it is very elastic, is less yielding in its longitudinal than transverse diameter, and not easily lascerated or detached from its connections, unless irregularly pressed as by a pointed instrument. Force or pressure, applied to the fundus of the inverted uterus, is resisted by the upper extremity of the vagina, which is now fastened upon the inside of the neck. The lower extremity of the vagina, being firmly attached, cannot yield, and the inevitable result must be the pulling open of the mouth of the uterus, unless the tissues are lascerated before that part dilates. Can there be any greater difficulty or danger in *pulling* open this outlet than in *pressing* it open if performed with the same gentleness?

"The uterus and vagina in complete inversion represent a continuous bag or sac, doubled or reflected upon itself, with the open extremity of the sac securely fixed. Pressure upon the closed end of the bag will, it is plainly perceived, under such circumstances, result in straightening the bag by completely turning it the other side out. So with the parts concerned in inversion. Pressure upon the fundus, if well directed, pulls open, first its mouth, then its neck, and finally, if persevered in, doubles the body upon itself also, and carries the fundus through the os and neck and body to its normal position.

"Does any uterine pathologist believe it would be impossible safely to dilate the os and bring down the fundus of the uterus, completely inverting the organ, if carefully and perseveringly undertaken? If affirmatively answered, then why may we not pull open the neck by means of the vagina in the same gentle manner as we would press it open when in a normal position, and thus carry the fundus up through it by means of pressure upon that part when it is in a downward direction? Perhaps

I may be too sanguine, but I am inclined to believe that well-directed pressure upon the fundus, if continued long enough, will in all cases, where there are no adhesions, result in restoration or reposition, no matter how much time may have elapsed since inversion occurred."

Subsequent experience has but served to confirm the views then advanced. With the repositor, as before described, pressure is brought directly upon the fundus and maintained for any length of time desired and with such an amount of force as shall be deemed entirely safe. The uterus can only escape in an upward direction, and restoration must follow. Nor will it be more painful when thus dilated than when the os is dilated by tents. I am of opinion that all cases of inversion *can* be reduced, without qualification as to their duration.

This opinion does not, however, seem to have been generally adopted by writers upon the subject, since these views were published, and hence it is deemed important to urge them upon the consideration of gynæcologists.

It is true, there are a few exceptions to this lack of faith. In an able "Report on Inversion of the Uterus," made to the New York State Medical Society, by appointment, by Professor J. V. P. Quackenbush, at its annual meeting in February, 1859, we find the following emphatic endorsement of the feasibility of reduction. After giving a very clear account of his theory of the causes of this accident, he says:

"But whatever may be the manner of its occurrence, the proper treatment is what most demands our attention. And what is the proper treatment of inversion of the uterus? I answer, reduction. If the case be recent, reduction; if of twelve days' duration, reduction; if of twelve years' duration, reduction! At any time, and under all circumstances, reduction must be resorted to, and very few cases will be found which are not reducible, I lay much stress upon this subject, for I do not think it well understood." . . . . Again, after referring to the opinion of Meigs when he says, "you have no art or skill or no power equal to the performance

of such a miracle of surgery as that," (the reduction of a case of inversion of six months' duration), Professor Q. adds, "gentlemen, this miracle has been done, and can be done, and should be done, and with proper management no case need be abandoned."

Notwithstanding this unhesitating affirmation of the doctrine of the feasibility of reduction in all cases of chronic inversion, which I had enunciated nearly two years previously, we find men in this State holding to the old doctrine that reduction is exceptional, and not by any means to be expected. The late Prof. Bedford, in his "Principles and Practice of Obstetrics," Fourth Edition, 1868, uses the following language:

"Should every effort *fail*—and such, in the most skilful hands, will not *unfrequently* be the case—care should be taken to return, if possible, the tumor within the vagina, and retain it *in situ* by the India-rubber pessary, etc., etc."

Nor is this incredulity, or want of progress, confined to this country. In England, where Tyler Smith had reduced a case of twelve years' standing, and published it in April, 1858, expressing the opinion "that no case, with proper and prompt management, could be considered irreducible within a reasonable time after the accident," we find Dr. Meadows, in his "Manual of Midwifery," published very recently, using the following language: "When the case has gone on unrelieved for many weeks, or even years, though attempts should always be made to secure reduction, etc., etc., yet the chances are *very greatly against success*," etc., etc.

Again, Courty, in his work published in 1866, in Paris, and who may be considered a fair exponent of the views in his own country, refers to reduction as being exceedingly doubtful. Indeed, he describes a method of reduction of his own which his reviewer, in the "American Journal of the Medical Sciences," thinks "especially worthy of consideration and trial." This consists in passing two fingers into the rectum, and by depressing them into the anterior wall of the rectum, hooking them into the ligament on each side of the neck, and thus holding it

down whilst, with the other hand, pressure is made upon the inverted portion of the organ, etc., etc. Again, he adds, "If the reduction is impossible, it is necessary to resort to palliative treatment or to *extirpation* of the uterus for its radical cure."* Nor are our German friends more hopeful. In a work by Dillenberger, re-published in London, in 1871, he says, "Chronic inversion is held to require palliation; if that is vain, removal by ligature or excision."

Whence this want of confidence? The cases of reduction are now so numerous, and the operation of such demonstrable character, as not to admit of doubt. I am utterly unable to account for this unbelief. Mere duration, I must repeat, cannot militate against success after the first three or four months have elapsed. And I am entirely incredulous as to there being such adhesions between the walls of the uterus as to withstand long-continued gentle pressure. Force may be as gradually applied by means of the repositor and speculum as the operator may deem necessary for the safety of the patient. When the os has been thus carefully dilated, the hand of the operator, or, if the fundus has passed up into the neck, a large rectal bougie can be called in requisition to complete the operation. Indeed, I indulge the hope that the day is not distant when all cases of inversion of the uterus will be regarded by all intelligent practitioners as amenable to treatment.

Perhaps something should be said here in relation to the manner in which reduction is accomplished. There seems great and unnecessary ambiguity and confusion on this subject. In all recent cases the fundus can be pressed into the body and neck, or "dimpled," as it is termed, by pressure upon the most depending part. In this manner, I am certain, the two cases which were reposited immediately after delivery, and, to some extent, the one of eight days' duration, were carried up. In the case of Dr. Lockwood, in 1861, the womb had been inverted for about forty minutes when I arrived. Administering some paregoric and brandy to restore her from the collapse, I seized

* Page 80, Paris Edition, 1866.

the uterus, pulled off the partly adherent placenta, and passed my hand, with the fundus before it, up into the cavity of the abdomen with scarcely more difficulty than would be encountered in inverting a wet bladder. Retaining my hand there for a short time, contraction soon came on under the influence of the ergot and stimulants which were given, and the patient (Mrs. W.) made a good recovery, and has since borne children. So with the one at eight days; in the report, it is stated, "having succeeded in 'dimpling' the fundus, pressure was maintained with the thumb at that point until the hand became nearly powerless. To preserve this depression whilst the muscles of the hand were permitted to rest, a rectal bougie, about twelve inches in length and one in diameter, was carried along in the palm, fixed in the dimple, and pressure unintermittingly continued through it, by the left hand outside the vulva. Gradually the concavity of the fundus was found to be deeper until it finally became completely restored."

This is doubtless the manner in which reduction takes place in all recent cases, whilst the organ is large and the walls flexible, and I was led into error by it in supposing that this same method obtained in all cases. This delusion was dispelled in my next case, of six months, in the report of which it is said in relation to the manner in which reduction was affected: "There can be no doubt that the os first commenced to yield and press down upon the intra-vaginal hand, which, it will be recollected, enclosed the entire uterus and the upper extremity of the bougie, and kept them in contact. This part gradually dilated and passed down upon and over the neck, which in turn dilated, and doubled down upon itself. The fundus did not perceptibly dimple, or was not reflected upon itself during the operation. The organ was too firm and the cavity too small for any depression to be made upon the walls of the fundus.

I have nothing to change in this description of the *modus operandi* of reposition of chronic inversion. In the case of fifteen years the attention of the distinguished gentlemen who were present was called to this fact (the reflection of the os

upon the neck), and they were requested from time to time to pass a finger up beside the hand of the operator and verify this point. The same careful observation was made during the most difficult of all the cases of reduction which I have encountered, the one at Port Dover, and with the same result. In my opinion, it would be unwise to double in the fundus upon the body after complete involution, even if it were practicable to do so. By so doing you would increase the size of the tumor to be carried through the cavity of the neck and os, by this introflexion, and also increase the difficulties of reduction. But all who make the effort to dimple the fundus of the unimpregnated uterus into the cavity, will perceive that it is impossible to effect reduction or inversion in this manner, even upon the dead subject.

By this explanation can all the apparent discrepancies as to the manner of reduction be reconciled. One practitioner has operated upon a recent case and restored it by dimpling in the fundus, whilst his no less observing and truthful fellow has restored the involuted organ by reflecting the os over the neck and body without at all being able to depress the fundus, and hence the difference.

Never having had a case of inversion to occur in my practice, I have never witnessed it, and shall not occupy space with any theory as to the cause and manner of its production.

The following figures represent the uterine repositor and its mode of application:

UTERINE REPOSITOR.

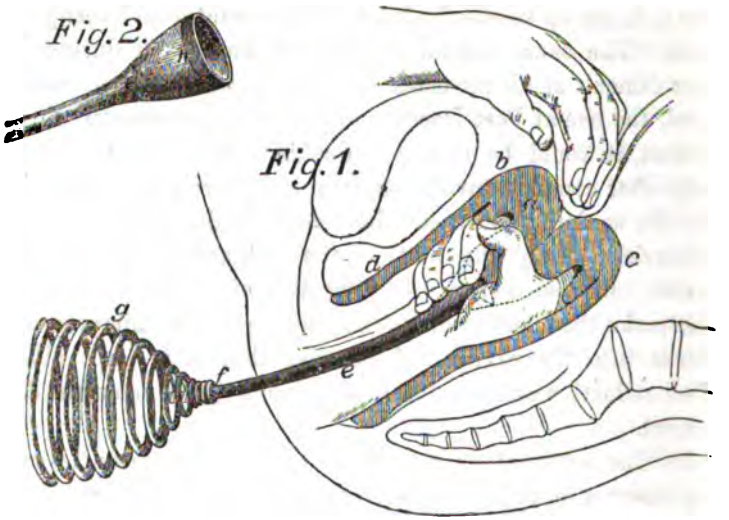

Fig. 1.

a. Uterus in process of reduction.

b. Anterior lip or wall of the uterus with the fingers of the left hand pressing upon it and assisting in pulling open the uterine cavity.

c. Posterior uterine wall semi-reflected.

d. Anterior vaginal wall.

e. Wooden or hard rubber stem of Repositor, its enlarged extremity held in contact with the fundus by the intra-vaginal hand of the operator.

f. Distal extremity of stem made into a screw, so as to fasten into *g*, a coil of No. 11 steel spring wire, requiring eight or ten pounds pressure by the breast of the operator, against which it is placed, to bring it down.

Fig. 2.

h. Uterine extremity of stem *e*, which is terminated with a soft india rubber disc 1¾-inch diameter, the concavity into which the fundus is received being about one-half inch deep, with its terminal margin thin and soft.

ART. II.—ON THE ANTISEPTIC TREATMENT OF SMALL-POX. By ARTHUR ERNEST SANSOM, M. D., Lond., M. R. C. P.; Physician to the Royal Hospital for Diseases of the Chest, and to the Northeastern Hospital for Children.

The progress of preventive medicine in these days has been such that there are now very few medical practitioners who, when called to attend upon a case of infectious disease, do not recognize that a double duty falls upon them, not only to treat the individual patient, but to prevent the spread of the malady to the community. Disinfection goes hand in hand with therapeutics. The object of the former is to destroy or render inert the agent which brings about the disease; if this be capable of accomplishment outside the economy, it is surely legitimate to attempt the same internally whilst the *materies morbi* is working its deleterious effects upon the system. Upon such a consideration is the antiseptic method of treatment founded, and such a large amount of evidence has been recorded as to establish at least a *prima facie* case in its favor. Erroneous notions have, however, been promulgated as to the legitimate modes of putting this treatment in force. As it would be absurd to denominate the administration in rheumatism of any drug having alkaline reäction the alkaline method of treatment, so it would be improper to call the exhibition of a remedy having antiseptic qualities in infectious disease the antiseptic treatment.

Taking the special disease, small-pox, we shall first inquire concerning the principles which should guide us. The proposition for experience to establish or to negative is, that whereas the poison of small-pox can be destroyed or neutralized, whilst it is external to the body, by agents known as antiseptics, it can be so affected whilst within the body as to modify the disease of which it is the cause. The first question which occurs is, What is the nature of this poison or *materies morbi?* That it has physical attributes no one at this day doubts. There is no evidence whatever to show that it is propagated in any other manner than by the transmission of the contagium from the subjects upon whom it manifested its effects to others who have not

previously succumbed to its influence. Its remote origin may be set aside as not of practical moment as regards the present inquiry, and its spontaneous generation in any instance has never been substantiated. Any other mode of propagation than direct transmission is, as Niemeyer says, "sovereignly improbable." It is given off from the diseased person by the affected portions of the skin as well as by the pulmonary and cuticular emanations, before the disease has become manifest, when alone the initiatory fever has begun.* The amount of the poison capable of inducing the disease is of extreme minuteness; it can be wafted for long distances by currents of air, it can be conveyed by the slightest attack. During the present epidemic I saw a severe case in which the subject had never moved from her own house; there was no possibility of intermediate personal contagion, but the disease existed in the neighborhood; and I have known an instance in which the disease was conveyed by the grasp of the hand of a lady who had lately come from visiting her sick son. Common experience, which has shown the subtle influence to be a material poison, has contributed to found arguments against the view that it is a mere organic principle. Inoculation has demonstrated that it is not a vaporous exhalation; if it were a soluble liquid, we should expect it to follow certain laws as to dosage; if it were a mere alkaloid, like the hypothetic sepsin, wherefore should it possess a term of efficiency and be rendered inert by a degree of heat which would in no way interfere with its physico-chemical properties? A common method of disinfection is subjection to heat, but it should be recollected that this would be utterly futile if the contagion were a mere organic poison; we have no right to conclude that such a poison would be changed any more than the other organic material subjected to the same influence. Happily, modern investigation has been able to point certain precise conclusions as to the nature of the mysterious *materies morbi*. The diffusion experiments of Chauveau have

* Cf. Marson, in Reynolds' "System of Medicine," vol. i., p. 242; Tanner's "Practice of Medicine," vol. i., p. 278.

supplied irrefragable proof that the active agent in the minute portion of contagium is a solid, insoluble in water and indiffusible. Unfortunately, analysis, with the highest aids, fails to determine the physical characters of this minute solid particle; but the facts of its behavior as a body that possesses a term of energy and vitality, and especially its power of reproduction, point strongly to the conclusion that it has the properties of living matter. Indeed, to this conclusion we must come, unless we admit an utterly inexplicable process of catalysis—a form of expression which by the advance of science, is gradually becoming relegated to the position of the Vital Spirits and the Humors of our ancestors. It is upon the supposition that the contagium of small-pox is a living particle that the antiseptic mode of treatment is based. The arguments which establish a parallel between disease-action and putrefaction or fermentation need not be entered upon here.* Suffice it to say that a large amount of evidence tends to the belief that all such forms of organic disruption are due to the operation of minute living particles, and when the vitality of these particles is quenched the processes can no longer be continued. In the operation of antiseptics it is these living particles, the agents of organic disruption, that are attacked and their life destroyed. Whether the germs of disease are *ab initio* vegetable or animal is a matter of obscurity. In fermentations we have great reason to believe that it is the function of *vegetable* forms of life alone to accomplish the decomposition of organic matters, though the appearance of animal forms is an almost constant concomitant. It seems reasonable to suppose that a general unity obtains, although the agents of destruction may be merged with and indistinguishable from the animal soil in which they live and multiply.

The germ, or zymogen, of small-pox having entered within the body with the inspired air, or through any breach of skin-surface, there is a period of twelve days during which it manifests no obvious effects whatever. It is certain, however, that

* Cf. The Antiseptic System, chaps. xvi.—xviii.

during this period of apparent latency its multiplication must have taken place within the system, for when its peripheral effects are first observed these are manifest simultaneously in many points over a wide extent of the superficies of the body. The multiplication of the zymogens differs in different individuals, and does not depend upon any inherent qualities of the germ itself, for a person infected from a mild case, attended with only a very few pustules, may have the disease in the most confluent form, and *vice versa*. The proliferation may take place in the blood, or in the tissues, or in both. The synchronous manifestation of the local signs would point to the probability that its multiplication to a certain extent took place in the circulating fluid. There is uncertain testimony as to the poison being itself communicable by the blood: inoculation has often been attended with negative results. MM. Coze and Feltz, on the other hand, assert that they discover bacteria in the blood of variolous patients, and that rabbits inoculated with the blood develop similar bacteria, become themselves possessed of powers of infection, and die.* The fact, however, remains that in the human subject the multiplication of the poison in the blood, if it occurs therein during the twelve days' incubation, is unattended with consequences sufficiently grave to disturb the balance of normal health; but it is in the tissues that the most considerable increase of the poison takes place, and it is not till these are involved that the disease assumes any serious signs. The effects seem first to be manifest upon the organic nervous system—it appears that the vaso-motor nerves are enfeebled or paralyzed, giving rise to conditions of hyperæmia, or, when destruction of the vascular walls has ensued, to hæmorrhage or ecchymosis. It would appear that the zymogens are arrested at various spots in the capillary plexus of the skin, and there undergo their most active changes, inducing inflammation, exudation, destruction of surrounding tissue, and suppuration, and becoming themselves enormously increased and

* "Recherches expérimentales sur la Présence des Infusoires et l'Etat du Sang dans les Maladies infectieuses." Strasbourg, 1864.

multiplied. The phenomena of the secondary fever we can scarcely doubt to be due to resorption of septic material from the purulent product. The important consideration is that it is *in the tissues* that the morbid activity of the poison is chiefly manifest; and to employ any agent which will not efficiently permeate the tissues, and thus reach the *materies morbi*, will be futile.

We will now consider the practical duties of one who would fairly put in force the Antiseptic Treatment of a Case of Small-pox.

I. EXTERNAL DISINFECTION.—It is to be recollected that at the time when any morbid symptoms become manifest, the poison of the disease can be exhaled from the system and can infect other persons. It is, therefore, a first duty that all superfluous, especially woollen, materials which can arrest and retain the poison shall be removed from the sick-chamber. It is the air into which the poison is exhaled that is now the chief medium of transmission; therefore, our most obvious duty is to disinfect the air. It has been declared that all methods of air-disinfection are necessarily futile—that it cannot be charged sufficiently with any antiseptic agent to exert any appreciable effect on the germs of disease. Seeing, however, that common air supplied in moderate quantity with certain antiseptic agents will kill animalculæ, and will arrest the manifestation of fungi, and looking to the evidence attesting the good practical effect of such attempted disinfection in various epidemics, I must believe that the minute zymogens are capable of destruction even whilst floating in the air. The most valuable agents to employ for disinfecting the air of the sick chamber are sulphurous acid and carbolic acid.

Sulphurous Acid is easily generated by burning sulphur upon an iron plate, which, for purposes of safety, should be placed in the middle of a vessel containing water. The only objection is the pungency of the evolved gas; but Dr. Hjaltelin, who especially recommends this method, says that his small-pox pa-

tients soon become accustomed to it, and even experienced the good effects of it upon themselves.*

Carbolic Acid.—For my own part I prefer this, because I believe it to be, of all agents we are acquainted with, the most powerful as a disinfectant of the air. My experiments showed that the germs which under ordinary circumstances develop into fungi are entirely killed by a small proportion of carbolic acid present in the air supplied to the soil; and of all the volatile agents I employed, this was the most efficient and most permanent.† I always advise first that the floor of the sick chamber be washed with water in which carbolic acid has been dissolved, and that some absorbent material moistened with the liquid acid, whence it may readily evaporate, be continuously exposed. The vaporiser of Messrs. Savory and Moore can be used with great advantage to diffuse the vapor in a larger proportion, but this must be employed only at intervals, or the fumes will become too powerful. The same firm have produced, at my request, an instrument which provides a sufficient and constant vaporization from an absorbent surface without any trouble or inconvenience.

II.—INTERNAL DISINFECTION.—The object of this is to disinfect the living body of the sufferer, to treat the disease by acting upon its cause, and to prevent the evolution from the body of active zymogens capable of infecting other persons. For this purpose the agents employed should possess two kinds of qualities—they should be capable of antiseptic action directly upon the zymogens which are contiguous to the mucous surface, and they should be readily absorbed and diffused throughout the system without losing their antiseptic properties. The necessity of attaining the former of these objects is shown not only by the fact that, even before the disease is manifest, infecting molecules are eliminated, but by our knowledge that the multiplication of the poison takes place at many points of the mucous surfaces, as it does within the skin. Disinfection of the air-

* British Medical Journal, p. 519, Nov. 4, 1871.

† The Antiseptic System, p. 104.

passages is attained by the means just described. Dr. Hjaltelin employed in addition sulphurous acid internally, diluted in the proportion of a drachm of the ordinary acid with an ounce of pure water, and administered every third hour. Dr. A. W. Foot, in addition to the diluted acid used as a drink, employed gargles of the same agent, sprayed the undiluted acid over nares and pharynx or used atomized solutions of tannin, carbolic acid, and sulphurous acid for the same purpose, caused the body to be washed with a solution of the acid, and sprinkled it about the bed and bed-clothes. The use of many of these plans is attended with comfort to the patient as well as advantage to the attendants; but as a general rule I am content with allowing the patient to breathe an atmosphere rendered antiseptic, without employing any of the other means. The most important point that we should endeavor to attain is to antisept the tissues of the living body. Is this *prima facie* impossible? No, for we have positive evidence that we can administer to a living animal an antiseptic substance which shall penetrate all its tissues and entirely prevent post-mortem decomposition. The structures of an animal so influenced will dry up, but will undergo no putrefaction whatever. It is undeniable, however, that great difficulties stand in the way; the chief, that when we are first called to see a case of small-pox, a great portion of the mischief is already wrought. The zymogens have done their silent work; in some cases the petechiæ and ecchymoses show that such a destruction is already accomplished, that all means are hopeless. I have had evidence however that a petechial case, if it comes under care during the initiatory fever, is not necessarily fatal. One case, petechial and confluent, which presented the most alarming symptoms, completely recovered in my hands, under the antiseptic plan of treatment, in twenty-one days. The agents which have been recommended for internal administration are—

1. *Sulphurous Acid.*—This, as has been before observed, is a most efficient direct antiseptic, and it has been employed with apparently much advantage by many observers, especially Dr.

Hjaltelin; but I think there are great doubts as to its efficacy as an antiseptic upon the tissues. I know of no evidence whatever in favor of the view that it can circulate as a free acid in the blood, while there are abundant probabilities that when absorbed into the blood it is neutralized by the alkaline constituents; in such case it would only reach the tissues in the form of an alkaline sulphite, and that in very small proportion.

2. *Carbolic Acid.*—The evidence is very conflicting as to the efficacy of this agent, internally administered, in small-pox, or indeed any other zymotic disease. It is to be recollected that it is administered with difficulty on account of its nauseousness, and it has a powerful toxic action. To exercise after its absorption any real antiseptic effect, it must be given in large quantities; in my opinion, a dose that would be efficient as an antiseptic would be highly dangerous; moreover, the character of the symptoms which it induces, especially the cerebral plethora, renders great caution necessary with reference to its administration in small-pox, and it tends not to abide in the system, but be rapidly excreted. According to my view, those who employ carbolic acid as an internal remedy in the usual doses do not really put in force the antiseptic treatment.

3. *The Alkaline Sulphites*, introduced by Polli in 1857, have these characteristics: They are readily absorbed; they circulate unchanged in the blood; they permeate the tissues, so that they can be recognized in and recovered from them as sulphites, a portion only being excreted oxydized as sulphates; they tend to accumulate in the tissues, but yet exert no deleterious action; and they are powerful antiseptics. I believe them to be very valuable agents for internal administration in small-spox. I employ sulphite of sodium in 20 to 30-grain doses dissolved in water, repeated every third or fourth hour.

4. *The Alkaline Sulpho-carbolates.*—According to my views the action of these salts is as follows: They are readily absorbed, and, like the sulphites, easily permeate the tissues; they are not direct antiseptics like the sulphites, but, becoming decomposed, they liberate free carbolic acid, which exercises its

antiseptic action. The antiseptic effect is evidenced upon the tissues and upon the urine, which resist putrefaction. I am accustomed in small-pox to administer 20 to 30 grains of the sulpho-carbolate of sodium every third or fourth hour. Dr. A. W. Foot has lately strongly corroborated my own views as to the efficacy of these agents internally administered in cases of small-pox.* I can only say that I have seen recovery take place in cases which appeared absolutely hopeless. As to the comparative value of the sulphites and the sulpho-carbolates, I think there is room for doubt. I have feared, in cases which have manifested cerebral symptoms, to administer the latter, in case the liberated carbolic acid might aggravate any tendency to encephalic hyperæmia—in such cases I have preferred the sulphites. I have never seen, however, graver symptoms than transient vertigo and headache follow the administration of the sulpho-carbolates in any case.

III.—TREATMENT OF THE PUSTULES.—This is a most important branch of the antiseptic plan. The application of an efficient antiseptic to the pustules on the surface of the skin fulfils two important indications—it tends to disinfect the laboratories of the poison, and thus to prevent the diffusion of the disease, and to arrest the process of suppuration to which are due the serious phenomena of the secondary fever. I have never seen secondary fever in any case in which the pustules have been treated in the manner I shall presently describe. What is called the ectrotic plan of treatment, which had for its object to make the pustules abort by local applications, has long been put in force, especially in France. For these purposes many materials have been employed—mercurial plasters, especially the "emplâtre de Vigo," solutions of corrosive sublimate, tincture of iodine, nitrate of silver, etc. In many cases it was stated that this method of treatment was followed by much success. These substances all have antiseptic qualities; no agent is more efficient in arresting fermentation than corrosive sublí-

* Dublin Journal of Medical Science, March 1872.

mate, and, according to Liebig, a trace only of oxide of mercury suffices to accomplish this arrest. The occurrence of ptyalism, however, taught caution in the use of mercurial preparations. Subsequently, collodion and other agents, which operated merely by excluding air, were employed, but extended experience showed that oftentimes more harm than good arose on account of the pent-up discharges. M. Lemaire, more recently, used liquefied carbolic acid as an application to the pustules, and he found that they became completely desiccated and shrunken, whilst others on the same patient, left untouched, went through their ordinary course, and were voluminous and filled with pus. I have been able completely to corroborate M. Lemaire's observation. I apply the acid, liquefied by means of alcohol, by a camel's-hair brush to the surface of the vesicles as soon as the contents commence to appear puriform, taking care not to touch the sound skin. The application is attended by no pain. I have allowed the attendants also to brush over the pustules carbolized oil (proportion one to four, scented with oil of wild thyme) cautioning them to avoid as far as possible the unaffected skin, so as to prevent the toxic effects of the acid absorbed from the cutaneous surface. The application is attended with an anæsthetic, and certainly not an irritant, effect. After one or two repetitions the surface may be washed with water containing some of the alkaline permanganate solution (Condy's fluid), and during convalescence the ablutions should be made with coal-tar soap. Mr. J. R. Stevens, of Plymouth, who has employed this plan of treatment with much success, uses also a wash containing chloralum to the pustules. The astringent as well as antiseptic qualities of this substance probably contribute to its usefulness in this direction. Mr. Stevens also counsels at the conclusion of treatment a bath containing a pint of chloralum, to render disinfection more certain.*

In conclusion, I venture to hope that my professional brethren will fairly test the antiseptic treatment of this dreadful malady,

* British Medical Journal, p. 127, February 28, 1872.

and I trust that they will prove it to be, in the words of Dr. Foot, "the plan best adapted to save life, to prevent deformity and to check the propagation of the disease."

ART. III.—THE PROPER DEFINITION OF THE WORD CURE, AS APPLIED TO MEDICINE. By PAUL F. EVE, M. D., Professor of Operative and Clinical Surgery in the University of Nashville, Tenn.

To the unprofessional, the science of medicine consists in studying names for diseases, and prescribing remedies. People come to us to find out what ails them, and to obtain what they believe will cure them. They never consider that every case is a problem to be solved for itself, requiring special examination, due deliberation, and study; and then, after all, it may embarrass the most skilful, demanding consultation to determine what is best to be done. A doctor versed in the nomenclature of his profession is always preferred to one familiar only with therapeutics, as everybody is ready to prescribe the well-known remedies for any disease, however obscure or formidable.

A morbid condition is never considered to be a modification of the natural phenomena of life—simply a perversion of the healthy functions—but is attributed to some noxious agent in the system, a certain something superadded, which must be removed, or counteracted by appropriate medicines, before health can be restored. For instance, an inflamed finger suggests the name of whitlow, and, without inquiring into the cause producing it—alike regardless, too, of constitutional peculiarity, the age, sex, habits, season, state of health, stage of inflammatory action, or what tissue may be affected, whether the skin, the cellular tissue, sheath of the tendons or the periosteum, etc., simply because it once did good in a case, a small fly-blister (it may be) is recommended, with the most positive assurance that, in six hours, the *felon*, the source of all the pain, may be taken out with the point of a needle or scalpel.

The less medicine a physician prescribes the more unpopular he becomes; the more he trusts to the efforts of nature, in relieving his patients, the less will he be appreciated; and he who ventures to decide, in any case, that the best thing to be done for it is nothing at all, may as well at once retire from practice. Yet is the assertion most true, the older a practitioner becomes, the less confidence has he in medicines; and, as a class, it is proverbial how little physic doctors take themselves.

In a recent discourse to his church, a minister of this city, and he holding a medical diploma, made the ungracious imputation upon us for attending calls upon the Sabbath, because, said he, such patients ought not to be indulged on that day; but even he writes: "The doctor cannot always diagnosticate a *cure*." Again, he has "devoted years to accumulating knowledge on the subject of *curing diseases*."

That this is a true description of medicine in the estimation of the public, no one, we think, will deny. The whole of our science, if they admit we have any at all, consists simply in finding out what ails the sick, and then trying to cure him by remedies for his disease.

In yielding to popular prejudice, our profession has been placed in a false position, for which we ourselves are not wholly blameless. Practitioners of medicine are looked upon as curers of diseases and healers of wounds; and if we fail—as assuredly we must, and ever will, in the nature of things—we ought not to complain that efforts are occasionally made to hold us responsible for bad results in practice. It is certainly the interest of our patients to do so, and as the world is now estimated by a moneyed valuation, these suits must be expected. Counting, then, the number of cases of alleged mal-practice, the question naturally arises if the time has not come for us to take the true position, that one by which this unpleasantness can be prevented, sustained, too, as it is, by truth, the aim of all honest men, and sanctioned by the highest of all authority—viz., *that in careing for the sick we do not profess to cure them.* No minister of the gospel promises to save the souls of his hearers by

his preaching, or by any other human means; nor can any surgeon produce the plasma to heal the slightest wound, no obstetrician deliver a woman, nor any physician restore a patient to health, without the *vis medicatrix naturæ*, or what we more familiarly term nature. If the patient have not the constitution, the power within himself, to resist morbid action, no man living can give it to him. Then why shall we assume, or encourage the prevailing opinion that we cure—we heal! Away with all false pretensions—the arrogant assumption of functions beyond the power of man; and let us be thankful that we are even humble instruments in the great and good work of promoting health and prolonging life; ever acknowledging, as we should, that it is God alone who healeth *all* our diseases.

In this definition of the word *cure*, as applied to medicine, it is not denied but that there are therapeutic agents much better adapted to relieve certain affections, or morbid conditions of the body, than are others; or that it is wrong to search after, or to engage in preparing such medicines. The great probability, however, is, that there are no specifics. Mercury, we admit, is apt to salivate; sulphur to destroy the source of the itch; atropia to dilate the pupil; acids to neutralize alkalies, and quinine to prevent chills and fever, etc., but as diseases, some of which are self-limited, vary according to season, latitude, condition of patient, their progress, etc., so there can never be a remedy for any one of them, and no such thing as a *cure*. The world is now about six thousand years old, and does not yet acknowledge one. The offer of thousands upon thousands of francs, by Monsieur Briant, of Paris, for a cure for cholera, has not yet been awarded, and it may safely be predicted never will. For, as every one is recognized by his own peculiar countenance, so may it reasonably be inferred that he also possesses a special organization, a constitution and system *sui generis*, distinct and different from all others. Daily experience teaches that what is food for one man may poison another. No medicine whatever will affect any two persons precisely alike. Even the number of actions from a dose of salts, the most astute physician will

not venture to predict. How, then, can it be possible, from these indisputable facts, the idiosyncracies of individuals, and variability of diseases themselves, even in epidemics, to prescribe for the mere name of affections. Yet those who do this are legion, and their advertisements alone, independent of the sales of proprietary medicines, ought to be sufficient to support a pretty strong government.

By the definition of the word, "*cure*,' 'as applied to medicine proposed and advocated by this communication, let it not be inferred that modern practice is a do-nothing system. By no means; far different. It does not simply amuse while nature cures. Knowing how little can be done when the house is in flames, we are bestowing more attention to hygiene and the preservation of health. If it cannot cure, it obviates the necessity for resorting to too much medicine. Its master-work is the *prevention* of diseases, by investigation into their causes. When cholera was announced, a few years ago, to have been imported into Blackwell's Island, New York harbor, the Faculty of that city proposed to extinguish it in five days. By disinfectants, cleanliness, and putting the patients into tents, etc., in three days the threatened epidemic was at an end.

We are aiming, not to cure, as people will insist we are, but rather to extinguish the spark, to check the incipiency of attacks, to cut short, to divert morbid action. *Obsta principiis* is our motto, and medical science teaches that we do abort, jugulate, arrest, and thus control, many ills that flesh is air to. Then, by the more chary use of the word "cure," in its application to the practice of medicine, our profession will be better understood, our patients expect less from us, we will be acting more honestly, and consequently made happier. Truth should ever be our aim, and if in error, a candid confession will do us good, and it is no reflection to acknowledge that the province to cure the body, like the salvation of the soul, belongs alone to him who made them.

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

ART. I.—ON THE TREATMENT OF DIABETES BY LACTIC ACID (CANTANI'S METHOD). By GEORGE WILLIAM BALFOUR, M. D., F. R. C. P. E., Physician to the Royal Infirmary, Edinburgh.

Towards the end of the last century (1796), John Rollo first propounded the theory that diabetes mellitus consisted essentially in some morbid change in the functions of digestion and assimilation, and conceived the idea of remedying this abnormal condition by cutting off from the food the supply of starchy matter from which he believed the sugar to be chiefly formed, employing also emetics, narcotics and tonics. Rollo thus laid the foundation of that system of treatment in diabetes which still prevails, which, mainly dietetic, consists also largely in the administration of tonics and narcotics. In France, this theory and treatment were adopted by M. Bouchardat (1841), who further showed that, for the complete conversion of starch into sugar, from seven to eight times its weight of water is required; thus accounting for the terrible and irresistible thirst of diabetic patients wholly irrespective of their excessive urination, which may be regarded as produced by the excessive ingestion of fluids rather than as its result.

The more important variations in the dietetic treatment of diabetes in recent times have been—1st. The use of alkalies, chiefly the carbonated alkalies, which is based upon Mialhe's theory (1843), that the sugar formed from the starchy articles of food in a healthy body is destroyed by the natural alkalinity of the blood, a property he supposed to be defective in diabetic patients. This theory has been shown to be wrong in every point, yet the treatment founded upon it has had a considerable amount of success. 2d. We have Reynoso's theory (1853), that the sugar in the blood of a healthy subject is burned in the lungs, and that it only appeared in the urine because of defec-

tive respiration; he therefore recommended a stimulating plan of treatment to increase the respiratory function; and the employment of the peroxide of hydrogen in modern times, as well as that of the permanganate of potass, is based upon this view of the origin of diabetes, which, although accurate enough in the fact that sugar does frequently appear in the urine of those whose respiration is impeded, is yet in so far defective that the development of grape-sugar into lactic acid, the first stage of its combustion, requires no oxygen. 3d. Claude Bernard's remarkable experiments (1848)—which seemed to prove the nervous origin of this disease, but which Schiff showed could not act without a liver, and acted mainly, apparently, by producing hyperæmia of that organ—gave a considerable impulse to the use of narcotics and nerve sedatives, especially such as opium, codeia and bromide of potassium, which so act upon the vasomotor nerves as to reduce hyperæmia, all of which gave considerable relief, and have had a certain amount of success. 4th. We have a modern return to the more purely dietetic treatment of diabetes in the employment of skim-milk as the sole article of food, a method of treatment which has been extolled by Dr. Donkin, of Sutherland.

Now, without entering more at large into the pathology of diabetes, it is obvious that those various modes of treating it are all underlain by one common fact—viz., that in diabetes the natural glycogenic function is discharged in a morbid manner, and that this morbid discharge of function may be importantly modified in two modes: First, by depriving the organism of that pabulum from which the glucose is mainly derived; and second, by employing such remedies as are capable of altering the nervous energy of the organs at fault; practically it has hitherto been found of importance to conjoin these two methods.

The chemical treatment of diabetes by the attempted burning of the sugar by artificially induced hyperoxygeneration of the blood, has not been found more successful than the simple dietetic plan without this addition, and for the chemical reason stated this could not be otherwise. While the basis of the

other chemical treatment, that by alkalies, has been shown to be erroneous, the blood of diabetic patients being not less alkaline than that of others on the one hand, while on the other, a fluid even more alkaline than the blood cannot decompose glucose, so that, if the alkaline treatment have really proved more successful than the simple dietetic plan, that must have depended on its exercising some modifying power over the function at fault—a modifying power, however, of so doubtful a character that it has not been able to prevent this method of treatment from falling, in this country at least, into comparative desuetude.

It is a matter of daily observation, that morbid alterations of function are frequently only to be permanently remedied by a restoration of the body to its normal standard, the great difficulty of promoting a cure in such cases being the impossibility of giving perfect rest to one organ while endeavoring to build up the frame, the skill of the physician being shown by the manner in which he solves this complicated problem, giving as much rest as possible to the organ at fault, while at the same time improving the general nutrition, and thus restoring the healthy tone to the constitution. It is in this respect that all the treatments hitherto propounded for diabetes have failed; they may have given rest to the organ at fault, but they have too often depressed the general health, and, while giving temporary relief, have possibly in many cases hastened the end; and even when a tonic treatment has been mainly relied on, it has failed for want of physiological adaptation. It is in this respect that Cantani's treatment is preëminently useful; it relieves without depressing, it gives as nearly as possible perfect rest to the organ at fault, and at the same time builds up the body by an artificial adaptation of physiological means, and restores the healthy tone to the constitution, thus enabling it to return to healthy action. It is by no means put forth as a perfect cure for all cases of diabetes; it is a means of relief to all, but only a cure for some; yet it seems to act curatively in a larger proportion of cases than any other mode of treat-

ment hitherto devised, while the relief to all is more perfect.

Professor Alnaldo Cantani, of Naples, agrees so far with Reynoso in believing that in diabetes the question is not so much one of increased production of sugar as of defective combustion; this he conceives to be proved by the small number of respirations made by diabetic patients and by their average low temperature, ranging, according to him, from 95° to 96.8° F. in uncomplicated cases; the temperature, of course, rising with any complication—such as tuberculosis—giving rise to pyrexia, but always remaining below the normal of such pyrexia. This defective combustion he believes to depend upon the production of a morbid form of glucose, which he has termed *paraglucose;* this is incapable of being transformed into lactic acid, and therefore cannot be burned; it is consequently passed unchanged in the urine. The result of this is, that the sugar and starch of the food being transformed into this incombustible paraglucose, the heat of the body is in so far maintained at the expense of the albuminates and fats, and from the combustion of the former we have that excess of urea which adds so greatly to the density in many cases of diabetes, while as the albuminates and fats which the patient receives as food are insufficient for his requirements, those of his own tissues are also employed, and hence his rapid emaciation.

In the early stages of diabetes the quantity of sugar passed in the urine oscillates with the diet, and with an exclusively animal diet is much lessened in twenty-four hours, and may entirely disappear in a few days; in the latter stages, when sugar persists in the urine even after the withdrawal of all amylaceous food, Cantani believes that not only the inosite of the muscles may be transformed into paraglucose, but also that the gelatinous tissues, which Baedeker succeeded in transforming into sugar apart from the system, may in this abnormal pathological condition become transformed into paraglucose, and thus account for the persistence of sugar in the urine of those fed exclusively on an animal diet, apart altogether from the question of the albuminates themselves being transformed into diabetic

sugar. Thus, though all diabetics are to a certain extent autophagic, we may yet have this abnormality developed to excess, and may thus have three steps in this disease: First, that in which the sugar oscillates with the quantity of amylaceous food supplied; second, that in which the inosite and gelatinous matter of the animal food are transformed into diabetic sugar; and, third, when not only these, but also the inosite and gelatinous matters of the body of the patient himself are so transformed—a most severe and hopeless form of autophagia. Cantani, with most pathologists, recognizes the liver as the organ mostly at fault in these cases; but whatever the organ may be, he proposes to give it as complete a rest as possible, by depriving it of its pabulum in subjecting the patient to a rigorous meat diet, thus reducing to a minimum the introduction into the system of the sugar-producing substances. But as that is only a temporary expedient, having reference to only one element of this disease, and incapable of arresting the waste and ultimate complete degradation of the body, he further proposes to prevent this waste by supplying a combustible agent in a quantity sufficient for the wants of the body, so that the fats and albuminates may continue to be stored, and the body thus gradually restored, to its normal standard; and he hopes that this restoration of the healthy standard of the constitution, coupled with the prolonged functional rest to the organ affected, may suffice to prevent any relapse into its morbid condition, even after a return to the ordinary dietetic conditions of modern civilized life. The results of Cantani's experiments have to a large extent proved the correctness of his views. The combustible agent which Cantani has selected is lactic acid, and it has been wisely chosen, inasmuch as it is in all probability that agent employed in the normal conditions of nutrition, representing as it does the intermediate stage between glucose and carbonic acid,* so that not only is a complete rest given to the organ at fault, but that very agent is supplied to the system which would have been normally present

* "What we have to do is to convert diabetic sugar—i. e., glucose—into lactic acid."—Headland on the "Actions of Medicines," 1867, p. 218.

had the organ at fault been doing its duty after a normal fashion; so that, while as complete a relief as possible is afforded to the organ at fault, there is in no respect any abnormal strain put upon the system. The organ at fault is for the time being merely thrown out of gear, but all the other functions proceed in a natural manner, so that, when the normal tone of the organ has been reäcquired, it may again be replaced in the natural cycle without the harmony of the natural sequence of the functions being in any way interrupted either by the cessation or the restoration of its function. The quantity of lactic acid which Cantani administers is from 77 to 154 grains daily, diluted in from eight to ten fluid ounces of water, and taken during the day. His exclusively meat diet means rigorously one of plain meat, roast or boiled, without any sauces of milk or eggs, and certainly without any bread, flour, or any vegetable matter whatever, the only seasoning permitted being salt, oil, and a little vinegar. For drink he allows water, either plain or with a little of the purest alcohol; coffee, tea, and wine being prohibited. His results have been somewhat surprising. In recent cases the cure is stated to be almost certain and speedy; and even where an exclusively meat diet is not persisted in, life is apparently prolonged, and many of the unfavorable results of diabetes are prevented, though the melliturla is not arrested. Dr. Sammut, of Naples, from whose report I quote,* states that he has seen an army lieutenant enter the hospital emaciated, weak, and impotent, with polyuria, thirst, and extraordinary hunger. In twelve days the last trace of sugar had disappeared from the urine, and in six weeks the patient had gained nine pounds. He left the hospital in excellent condition—florid, strong, without thirst or hunger; he continued the treatment for two months more at home, and then resumed mixed diet, and after the lapse of eight months he was in excellent health, and weighed twenty-one pounds more than when he entered the hospital, being also without a trace of sugar in the urine, though eating indiscriminately of all that

* British Medical Journal, February 25, 1871, p. 208.

came before him. A tailor from Naples was admitted in a desperate condition. He left florid and robust. Since then, for more than seven months, he has been eating promiscuously, and is more fat, rubicund, vigorous and energetic than before his attack. Dr. Sammut also states that he saw in Cantani's clinique several other diabetics—he mentions five—all much improved, and several believing themselves to be perfectly cured.

These results are certainly very remarkable, and being a continuous series following the employment of a treatment based on rational considerations, are sufficient to claim the attention of every medical man interested in the progress of therapeutics. And I may remark that the latest treatment of diabetes propounded in this country—that by skim-milk—bears out Cantani's views in so far that it is a strictly animal diet, free from amylaceous matter, and containing three to six per cent. of lactin, which, under the influence of the caseous matter, becomes transformed into lactic acid. This treatment is therefore an approach, but a very meagre one, to Cantani's apparently more perfect system; and I may add that the results of the two systems in my own practice have fully convinced me of the greater applicability and more perfect success, so far as the time allows me to judge, of Cantani's method.

This treatment is simple, physiological, and its results are certainly sufficiently remarkable to demand attention, being far before anything I have hitherto been able to attain by any other method whatever.

The lactic acid I have employed has been that obtained from the druggist, fluid, not syrupy, of a spec. grav. of 1.027, and with the ordinary musty smell of sour milk. Three to four drachms in the day seem to be quite sufficient for all practical purposes; yet much more may be taken without detriment,* some cases occasionally taking as much as eight or nine fluid drachms in the day. The remedy is, however, as yet, rather

* In particular, I have never seen any rheumatic pains produced; and if the acid be kept within proper physiological limits, it is impossible that they ever can be, otherwise we would all be rheumatic.

too expensive to be employed in larger doses than are absolutely necessary, as it costs ten shillings a pound; a more extended application will, of course, cheapen its production.

The great advantage of this treatment is the prospect which it holds out of a comparatively speedy restoration to ordinary mixed diet, with persisting absence of sugar from the urine—of rapidity of cure, in short; and this rapidity is in itself a great encouragement to such patients steadily to persevere, in spite of the irksomeness of a diet rigidly restricted to meat, which seems certainly to be required for two or three weeks at least, after which fish, fowl, and green vegetables may be added, and other relaxations gradually and cautiously permitted, provided the case progresses favorably.—*Edinburgh Med. Jour.*

ETHER AND CHLOROFORM AS ANÆSTHETICS. By J. WARRINGTON HAWARD, F. R. C. S.

At a meeting of the Royal Medical and Chirurgical Society, a paper was read by Mr. Haward, which commenced by stating that, it having been suggested to the author that the statements of Dr. Bigelow and other American surgeons showed that ether as an anæsthetic had been to our detriment neglected, he had, during the past year, practically investigated the subject, and had arrived at the conclusion that ether was, for several reasons, to be preferred to chloroform. Of these reasons, the strongest was the greater safety of ether; for by using it the chief, and in skilled hands probably the only, cause of fatal cases of chloroform inhalation was excluded—*i. e.*, paralysis of the heart; ether being a stimulant to the heart's action, and uniformly improving the pulse. The second was that ether, from its stimulant quality, was antagonistic to the effects of the shock of an operation, which the author maintained, and quoted cases to show, was not abolished by rendering the patient insensible. A third was the greater liability of chloroform than

ether to produce after-sickness. The principles and mode of administering ether were then described, and it was shown that if these were attended to, the production of anæsthesia by ether was as easy and certain as by chloroform, and required but little more expenditure of time or the drug. The only cases to which ether was not so applicable were operations upon the mouth, in which the inhaler could not be used, and where it was necessary to reädminister the anæsthetic as rapidly as possible without an inhaler. There were two appendices to the paper, the first consisting of a table of fatal cases of chloroform; the second, of a table of ninety-seven cases in which the author had administered ether, including amputations, excisions, perineal section, lithotomy, lithotrity, staphyloraphy, operations on vesico-vaginal fistula, ligature of piles, and other operations. Especial note was taken of the occurrence of after-sickness, and the only approach to it was that in one case, after an operation for recto-vesical fistula, the patient vomited once, an hour after the operation.

The President remarked that the author had omitted to notice the recommendation of the Committee of the Royal Medical and Chirurgical Society, to mix chloroform and ether.

Mr. Spencer Wells thought there were grounds for not carrying out this recommendation. In Vienna, where the plan of mixing chloroform and ether had been tried, it had been found that the patients first got the effects of the ether (the lighter fluid), and were then suddenly overpowered by the chloroform. *He had long felt that there were serious objections to chloroform in operations involving the abdomen, on account of the persistent vomiting which was liable to follow its administration.* He had, following the example of Dr. Keith, of Edinburgh, given ether in some cases; but good ether was scarce, and the diffusion of the vapor through the air gave rise to inconvenience. After four years' experience, in more than three hundred cases, he had found bichloride of methylene to possess great advantages over both ether and chloroform, and after-sickness was rare. It might be administered from a graduated bottle, by

having air forced through it by means of bellows. About four deaths had been reported to have followed its use; while, from the quantity sold, it was estimated that it had been given to 50,000 or 60,000 cases. Perhaps, however, even a better anæsthetic than the bichloride of methylene would yet be discovered.

Dr. W. H. Day gave an account of the characters of bichloride of methylene, as described by Dr. Richardson. It produced less sickness than chloroform; and the patients recovered more quickly from the anæsthesia which it produced—the agent being readily eliminated. For an operation lasting half an hour, three drachms of the bichloride of methylene were generally sufficient.

Dr. C. Kidd preferred administering ether and chloroform separately. Thus it proved a good plan to place the patient at first well under the influence of chloroform, and continue the anæsthesia with ether in a separate inhaler, especially if the pulse become weak from shock or bleeding. Ether alone was very tedious; three or four ounces of chloroform would do as much as almost a pint of ether. As to the pulse, he agreed with Lister that it was very little influenced by chloroform. Sabarth gave thirty-six deaths under ether, so that it was not entirely devoid of danger. As to bichloride of methylene, it was suitable for short operations, but for long operations he considered it dangerous.

Dr. Sansom said that there was not sufficient data for estimating the relative dangers of chloroform and ether. The statistics as to chloroform differed widely; some giving the deaths as one in 16,000, and others as one in 2,500. The rate of mortality from ether was also variously given; but there was sufficient to show that it was not absolutely safe. Chloroform was more manageable than ether; on account of its nauseousness, many persons could not tolerate the latter. The danger of chloroform, in his opinion, lay in its diminishing the power of the circulation. From experiments which he had made, he agreed with Mr. Wells as to the effect of mixtures of

ether and chloroform. When, however, chloroform was mixed with alcohol, it was not merely diluted, but its volatilization was retarded, and a more free admixture of air was allowed. In many cases a small quantity of morphia might be injected hypodermically, and then a smaller amount of chloroform would be required.

Mr. Holmes had tried ether some years ago. He did not think that there was any difficulty in bringing patients under its influence, though it required about twice as much time as chloroform. There was no necessity for any diffusion of the vapor in the room; the windows might be kept open. The chief reason why he abandoned the use of ether was that, when given by a sponge (as was ordinarily the case), it produced asthenic congestion and convulsive movements, especially in patients addicted to drinking. It was useless to imagine that a perfectly safe anæsthetic could be found. As to the statistics of death after the use of anæsthetics, these were of no use, unless it were shown in each case whether the agent was administered judiciously or injudiciously. If ether were given in a proper manner, there was no objection to it, and no inconvenience of importance attended its use.

Mr. R. B. Carter had inhaled ether experimentally in 1848, and remembered that the taste of it remained for two or three days.

Mr. C. Hunter agreed with Dr. Sansom that the danger with chloroform arose from its effects on the heart. If morphia were injected, it was necessary to look to the lungs as much as to the heart.

Mr. Clover was at University College Hospital when ether was first used there by Mr. Liston. He remembered that there were many cases of sickness after its use; and he had not found it so free from this result as has been alleged. It was difficult to breathe ether freely, on account of its pungency. Statistics were not trustworthy; and it must be remembered that cases in which chloroform was given in midwifery (its full effect not being produced) were not fairly comparable with those in which

it was given for the performance of great operations, such as lithotomy. Much would depend, also, on the distance from the face at which chloroform was given. If the inspired air contained more than five per cent. of the vapor, there was marked tendency to produce death by syncope.—*British Med. Jour.*—*Boston Med. and Surg. Journal.*

The Treatment of Syphilis by the Hypodermic Injection of Corrosive Sublimate.—Dr. R. W. Taylor treated fifty syphilitic patients during a period of eighteen months with the hypodermic injections of corrosive sublimate, and has arrived at the following conclusions as a result of his observations:

1. That the use of the bichloride of mercury by hypodermic injections, though a method of treatment possessing certain advantages, is, for various reasons, of limited application.

2. That it is useful in the whole secondary period of syphilis, in roseola, and in the various papular syphilides, and in that form of papular syphilide in which there is only slight tendency to the formation of pus.

3. That it very rapidly cures all syphilitic neuroses, and that it is very beneficial in the cachexia of syphilis, whether accompanied or not by perceptible lesion.

4. That it possesses no advantages over other modes of administering mercury in the treatment of mucous patches and condylomata lata; and that these lesions yield more rapidly to a local than to any form of constitutional treatment; and that, in the syphilitic lesions of the nervous system and of bone, particularly if late, its use is not to be commended.

5. That the very early tertiary syphilitic lesions, provided they are not of an ulcerative character, may be very much benefitted by it, and that the simultaneous administration of iodide of potassium internally may produce a cure more rapidly than when the two are given internally.

6. That the peculiar advantages of the treatment are: the smallness of the amount of mercury used, the rapidity of action, and the absence of systemic disturbance.

7. That a very minute quantity of mercury, averaging from two to three grains, thus administered, may cause the disappearance of very extensive syphilitic lesions, and the alleviation of very severe symptoms.

8. That, in the greatest number of cases, an injection every second day, of an eighth of a grain of the bichloride of mercury, will produce a cure in rather less than two months, and that, in very urgent cases, they may be pushed, with good effects, to the extent of one or two daily.

9. That the rapidity of cure is the rule, rather than the exception, and that the time required may be stated as varying between three weeks and two months.

10. That, when the injections are given every second day, it is very rare to observe any unpleasant systemic effects of the mercury; and that, even when they are pushed more than this, these effects are never as severe as when mercury is pushed to a similar extent by the mouth.

11. That the relapses after this treatment are equally as frequent, as rapid, and as severe in character as when mercury is given in other ways.

12. That there are unpleasant local effects of the injections, such as pain of the puncture, pain over the site of the injection, induration of the connective tissue, and abscesses.

13. That, in many cases, the pain is very slight, and soon ceases to trouble the patient; but that, in others, it is so severe and persistent as to necessitate a discontinuance of the treatment; and that, in every case, some slightly unpleasant local effects are experienced from the use of the injections.

14. That, in exceptional cases, the injections cause a low grade of inflammation in the subcutaneous connective tissue, producing a decided induration in deep portions of the derma; and that, owing to complications which might, perhaps, arise from this condition later on, it is advisable to discontinue the injections in these cases.

15. That this induration may be observed in many cases in which it is only of an ephemeral character.

16. That, if proper care is used in administering the injections, abscesses will rarely, if ever, occur.

17. That it is absolutely necessary that the patient should be both intelligent, and, at the same time, thoroughly impressed with the gravity of his disease, in order that he may comprehend the advantages he is to derive from this mode of treatment; otherwise, he could not subject himself to the inconveniences which are inevitably experiened in the course of the treatment.

18. That while in dispensary and hospital practice the injections may be frequently given, in private practice the smallness of a patient's means may often be an obstacle in the way of the continuance of the treatment.

Finally, that while in some cases, the treatment may be useful by reason of its rapid action, and in others for the smallness of the dose, the inconveniences which it produces, the objections of the patients, and the presence of lesions which contra-indicate its use, confine its sphere of usefulness to very narrow limits.—*Medical Gazette.*

Sunstroke.—The current number of "Lippincott's Magazine" contains an article on this subject, from the pen of one of our most valued contributors, Dr. Horatio C. Wood, Jr., which is generally understood to be an abstract of the essay that gained for its author the "Boylston Prize" this year.

After passing in review a portion of the literature of the subject, the writer proceeds to discuss the various theories which have prevailed in regard to the pathology of sunstroke. The theory which he first adopted, that the symptoms of the disease depended upon an alteration of the blood, he considers to be no longer tenable. Referring to some experiments of Dr. R. Cresson Stiles, which were published in the "Boston Medical and Surgical Journal" for June 1864, and in which it was shown that the blood of an animal that had died of sunstroke might be injected with impunity into the veins of another animal, he rightly conjectures that the symptoms do not arise from the development of a poison in the blood. He also proves that

there is no loss of vitality either of the red or of the white blood-corpuscles; for the blood in sunstroke, although dark in color, becomes of a bright arterial hue when shaken with oxygen, which would not of course be the case if the red corpuscles were dead. The amœboid movements of the white corpuscles are, moreover, found to be exceedingly active in blood which has been gently heated. The proof appears then complete, he says, that the changes in the blood which undoubtedly occur in protracted cases of the disorder are secondary, not primary. The next step in his investigations was directed towards ascertaining what it is in sunstroke that kills, and why the heart and muscles are found so rigid after death. Subjecting myosine to different temperatures, he found that coägulation came on with great rapidity when the temperature was raised to 108° Fahrenheit, and that it occurred immediately at 115.° If a piece of muscle, while yet limp and uncontracted, be exposed to a moderate warmth, the post-mortem rigidity comes on much more quickly than when it is cooled. If a temperature of 110° be reached, the stiffening comes on in a very few minutes; at 115° immediately. These facts show very plainly the cause of the rapid appearance of the post-mortem rigidity in sunstroke; for in this disease the temperature of the body at the time of death is frequently above 110° Fahrenheit. It seemed, Dr. Wood goes on to say, a probable conclusion from these facts that the cause of death is coägulation of the myosine of the heart-muscle and consequent arrest of its action. But on opening the thorax of insensible animals when breathing had ceased, and when, therefore, the ordinary external appearances of death were presented, he found that the heart habitually continued to beat for a greater or less length of time after the arrest of respiration. The fact was thus established that in ordinary sunstroke death is brought about not through the arrested action of the heart, but by the failure of the respiration, and that the peculiar hardening of the heart takes place *after*, not *before*, death. This arrest of respiration Dr. Wood, in common with the older observers, believes to be of nervous origin.

The next step in the inquiry was directed towards the determination of what it is in sunstroke which so fatally oppresses the nervous system. As the agent is not in the blood, the probabilities appeared to Dr. Wood to be in favor of its being the heat itself. He shows by the following experiment that the nerves will bear, without injury, a temperature far above that which is reached in sunstroke. In an animal placed and kept profoundly under the influence of chloroform, the sciatic nerve was exposed, and so arranged that a stream of water of known temperature could be caused to run over it. By means of a galvanic battery the nerve was excited from time to time above the heated portion, and the conducting power of the latter thereby tested.

"The inquiry was," he says, "thus narrowed down to the nerve-centres, to which, consequently, the investigation was directed. A hog's bladder was fitted like a bonnet over the head of an animal, with tubing so arranged that hot water could be made to circulate through the bladder. It was found when an animal was so treated that *sudden insensibility, stupor with or without convulsions, and finally death from asphyxia, were induced.* As soon as death occurred, the head of the animal was opened and the bulb of a thermometer was plunged into the brain. It was thus ascertained that a brain-temperature of from 112° to 114° was fatal to a cat, and one of 114° to 117° to a rabbit."

The brain of man being more highly organized and more active than that of a lower animal, it is probable that a less degree of heat will produce in man the same set of symptoms. The mechanism of an attack of sunstroke Dr. Wood explains as follows:

"Under the influence of external heat the temperature of the body rises until at last a point is reached at which the heat paralyzes, by over-stimulation, this controlling centre (regulating animal heat); then a sudden additional rise of temperature, with a corresponding increase in the severity of the symptoms, occurs."

Holding this view of the pathology of sunstroke, Dr. Wood very naturally recommends the plan of treatment which is now almost universally employed by intelligent physicians, and which consists simply in the external application of cold water, both as a curative and a prophylactic remedy.

We have thus laid before our readers the principal points of this really admirable paper, which presents us with a fair résumé of what is known of the subject of which it treats, and with the results of some new experiments upon animals.

Although the article is a popular one, intended only for general readers, we think Dr. Wood would have done well to have mentioned the names of those who originated some of the experiments upon which he bases his conclusions.

We are rather surprised to find the author asserting that the theory which makes the symptoms of sunstroke depend upon an alteration of the blood was originally suggested by himself. This theory prevailed long before the appearance of Dr. Wood's paper on this subject, in 1863, and may be found alluded to by the late Dr. William Pepper, in some remarks made at the College of Physicians of Philadelphia, and reported in the "American Journal of the Medical Sciences" for 1851. It is also very fully discussed in a communication made to the same journal in 1859 by Dr. James J. Levick, who was so struck with the resemblance of sunstroke to typhus fever, that he proposes the name of "heat fever" for it, and has given in his paper a table illustrating the comparative symptoms of the two diseases. He, moreover, recognized the fact that the changes in the blood were secondary and not primary.

Dr. Wood is disposed, we think, to attribute too large a share of praise to the experimental physiologist, in conducting us to a rational, scientific treatment. While fully sympathizing with him in his denunciation of the unreasoning sentimentalism which has rendered vivisection almost impossible in this city, and appreciating the fact that we are largely indebted to it for our knowledge of physiology, and to a certain extent also of pathology, we would remind him that it is dangerous to attempt

to prove too much in support of a mooted question. Considering that the external application of cold water, or, what is even more efficacious as a refrigerating agent, ice, in the treatment of sunstroke, has been practiced in this city for more than ten years, and that the cold douche has been long recommended by Indian physicians, it sounds rather oddly to hear that the *bedside* physician (by which term we suppose Dr. Wood designates a physician who is not a vivisector), being still utterly at sea as to the nature of the malady, is equally so as to what ought to be done for the patient's relief. Do we really owe to the experiments detailed in this paper the knowledge that the overheated body in sunstroke and fever is most readily cooled by its immersion in cold water, and that this constitutes the most rational as well as the most efficient plan of treatment in the former and very probably in the latter condition?—*Philadelphia Medica Times.*

Action of Quinine on the Uterus.—M. Monteverdi communicates to the "Nuova Liguria Medica" the results of a series of experiments he has made on this subject. He has invariably employed the sulphate of the alkaloid. He finds that quinine exerts a general tonic influence on all the organs of the body, but especially upon the uterus. In the course of half an hour after it has been administered, short contractions occur in the uterus, unaccompanied by pain; and these gradually become longer and stronger, with distinct intermissions, so as to resemble closely ordinary pains of labor, the effect lasting for about two hours. In order to effect the expulsion of the fœtus and of the placenta, he believes that doses of about four grains will be found the most appropriate. Quinine appears to be preferable to ergot, because it exercises no injurious influence either on the mother or child, because it is very certain in its action, because the contractions it induces are very regular and natural in their character, and because it is free from danger at whatever period of pregnancy it is administered; or in cases of contracted pelvis, incomplete dilatation of the os uteri, and antecedent to the escape of the waters. He finds

that it is of service in the metrorrhagia of pregnancy, in amenorrhœa in consequence of a torpid condition of the uterus, and in puerperal fever, as a consequence of its tonic action. He considers quinine to be indicated in all diseases of the digestive organs, and of the urino-genital system dependent upon atony of the various organic constituents. M. Monteverdi gives a caution in regard to the use of quinine in pregnancy complicated with any disease requiring its administration, lest abortion or premature delivery be induced. In cases where quinine proves too energetic in its action, he recommends opiates to diminish its effect. He considers quinine to be contra-indicated, as a general rule, in hysteria.—*Lancet.*

NOTE.—The best oxytoxic is, perhaps, the reading of "charges" in a Medical Society against a member. This seems to induce labor in an astounding number of females, requiring the precipitate departure of members who will be required to stand the crucial test of a vote.—ED.

Liquid Nitrous Oxide.—Owing to the politeness of Professor J. H. McQuillen, of the Philadelphia Dental College, we were afforded an opportunity of examining the apparatus for holding liquid nitrous oxide lately patented by Johnston Bros., of New York. This consists of an iron cylinder, twelve and a half inches long by three inches in diameter, into which one hundred gallons of the gas are forced by compression. A morocco case is made to contain the cylinder and to protect the delicate valve with which it is provided from injury. When wanted for use, the gas is drawn off into an india-rubber bag capable of holding about four gallons, and provided with an inhaler, all of which is contained in the same case as the cylinder.

The advantages claimed for this method of using the gas are the facility with which large quantities of it can be transported, the greater purity of the liquid nitrous oxide as compared with that of the gas made by or furnished to dentists, and the consequent less risk in its administration. We learn that during the performance of the operation of ovariotomy recently in New York by Dr. J. Marion Sims, the patient was kept under the influence of this anæsthetic for one hour and a half.—*Philadelphia Medical Times.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—NOVELTIES IN OPHTHALMIC PRACTICE, ILLUSTRATED BY CASES. By JULIAN J. CHISOLM, M. D., Professor of Eye and Ear Diseases in the University of Maryland; Surgeon to the Baltimore Eye and Ear Institute, etc., etc.

A New Method of Changing the Direction of Wild Hairs.—Notwithstanding the numerous methods devised by ophthalmic surgeons to correct the serious annoyances caused by eyelashes turning in upon the ball of the eye, the best planned operation often fails to give the desired relief. This is more especially the case when the irritation is kept up by a few scattering cilia, two or three being quite enough to cause in time permanent opacity of the cornea and loss of sight. Experience has proved that the constant pulling out of these wild hairs, not only insures their rapid growth, but at the same time increases the morbid tendency to direct the lash from its normal outward direction. When attempts are made to cut out such wild hairs, the cicatrix resulting on the free border of the lid will cause a change in direction of continuous hair-bulbs, a leaning in toward the scar, and we thus replace the one removed by two or more made irregular by the operation. The destruction of the hair-bulbs by inoculation with tartarized antimony, or some such irritant, is not always satisfactory, and the inflammation excited may become more widely spread than is desirable. The following method, recently suggested for restoring the direction of these very troublesome little appendages, I have several times put into successful practice, and will exemplify its application as practiced in the following case:

G. W. J., a gentleman from Illinois, applied for relief at the Baltimore Eye and Ear Institute under the following circumstances: In early life he had suffered from ciliary or marginal blepharitis. This long-continued inflammation at the root of the hair-bulbs had caused many of them to grow in the oppo-

site direction to that designed by nature, and instead of growing gracefully outward in a continuous row, they grew irregularly, wildly, inward, scratching the surface of the cornea. For twenty years the patient had assiduously pulled out these offending hairs as they would reäppear; by this process keeping up the irritation, exciting a more rapid growth, and insuring a greater distortion in direction, and also in number. When he presented himself for treatment, the entire ciliary border of each left lid was turned in upon the eyeball, keeping up such a perpetual irritation that the cornea had become completely opaque, permitting perception of light only. The right corner was partially cloudy from a similar cause. In the upper lid of his right eye a few of the lashes, four or five in number, were turned in upon the corneal surface, threatening in time to destroy its transparency also. Upon this lid the following novel method was used to make these hairs grow away from the eyeball and resume a proper direction. A very fine curved needle was threaded with a double strand of fine silk; the point of the needle was then entered upon the tarsal border of the lid, at the very spot where the respective hair emerged from the lid-surface, and being pushed outward, the point of the needle made its appearance through the skin just above the row of eyelashes. When the needle had traversed the lid, the double thread, with a noose at its free extremity, was drawn upon until the noose was ready to disappear in the lid-tissues. The wild hair was now gently pushed through this noose, and as the thread was drawn upon until it escaped from the cutaneous surface of the lid, it drew the vicious hair in the same direction, leaving it still attached to its hair-bulb (for this is all important), but drawn completely through the free border of the lid in a passage made for it by the needle, the point of the hair sticking out in front through the needle puncture. The rationalé of the operation is that the hair drawn through the lid will, by constant traction in growth, change the position of its hair-bulb, and in this way correct the wild direction which it formerly took, to the serious injury of the patient.

Tattooing Long-standing White Spots of the Cornea to Conceal Ugly Deformities.—This process of covering permanent white corneal spots with suitable pigments and embodying the same in the corneal tissue, is a very recent suggestion, made by ophthalmic surgeons, to conceal such ugly blemishes. The process is very simple, and is only an extension, for a very useful purpose, of the very common practice among sailors of tattooing their arms and chests in elaborate and beautiful designs with various colored pigments. Experience has long shown that, after the embedding process is completed, no irritation is induced by the presence of such fine foreign particles in the skin substance; and very recent experiments have proved the cornea, a modified dermic tissue, to be as little susceptible to irritation from such particles as the skin itself. The following is a case in point:

E. J., aged 29, came under treatment for chronic inflammation of the right eye. Four years since the left had been attacked by acute ulceration of the cornea. A large slough, with perforation in the anterior chamber, had taken place in the outer half of the cornea. A portion of iris had patched up the the hole and saved the eye from total destruction. In time the inner half of the cornea had regained its transparency, but the outer half had remained white, an ugly scar. During the healing process, the pupil had become obliterated, and this eye was considered as lost. I first made an artificial pupil in that portion of the iris which corresponded with the clear cornea. No inflammation followed upon this operation, and in a few days excellent vision was restored to this eye. The white opacity of the cornea contrasted very unfavorably with the very dark-brown iris, now made more marked by the presence of a side pupil; I therefore undertook to correct the deformity by adopting the following method: A half dozen very fine cambric needles were secured to a pen-handle, the sharp points being free; this was my tattooing or stippling instrument. The patient was brought fully under the effects of chloroform, and the lids then well separated by a stop-wire speculum, so as to expose com-

pletely the entire cornea. A few drops of a thick solution of India ink, a substance well known to draftsmen, were placed upon the white surface, completely concealing it from view. I then commenced the process of sticking the surface through the pigment, so that the black matter could settle into the punctures, and becoming indelibly embedded in the white corneal surface, blacken it permanently. With a rapid wrist movement, I stuck the cornea with my improvised instrument at least a dozen times, making in all between seventy and eighty punctures. A strong solution of sulphate of atropia, 3 grs. to ℥ i. of water, was ordered for the eye, to be dropped in three times a day, and water dressings applied to the lids. No pain was experienced by the patient as a consequence of the numerous prickings of the cornea, and five days after the operation the patient had discarded the bandage, the eye exhibitiug no irritation whatever.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

The Semi-Annual Meeting of the Southwestern Kentucky Medical Association.

The above-named Association met at the hall of the Confederate Relief Society, in the city of Paducah, on Monday, May 20, 1872.

The following is a list of its original members: Drs. R. Saunders, E. B. Richardson, D. A. Maxwell, J. G. Brooks, J. R. Cole, M. G. Milam, D. A. Watts, J. W. Becker, J. W. Thompson, and J. D. Kelley—all of Paducah; E. W. Woodson, C. A. Elliott, and Thomas Rivers, of Woodville; W. D. Senter, of Lovelaceville; A. A. Slaughter, of Milburne; John Anderson, of Fulton Station; A. J. Watson and John L. Dismukes, of Mayfield; W. R. Robinson and J. W. Single-

ton, of Florence Station; G. Beeler, of Moscow; J. J. McGee and A. J. Smith, of Symsonia; S. P. Payne and W. S. Bennett, of McCracken county; L. M. Lovelace and W. D. Hunt, of Ballard county; Presley Pritchard, of Palma City; Benjamin Franklin, of Golden Pond, Trigg county; O. B. Withers, of Lyon county; M. H. Carson and W. H. Saunders, of Smithland; D. R. Merritt, of Mayfield; J. A. Maxwell, of Caldwell, and T. C. Parker, of Graves county.

The Association was called to order at 9:30 A. M.—Dr. Maxwell (the President) in the chair, and Dr. E. B. Richardson secretary. The roll was called, when nearly all of the foregoing physicians answered to their names. The Minutes of the last meeting were read and approved, and the Convention proceeded to business.

A Committee on Credentials was appointed by the President, consisting of Drs. O. B. Withers, Benjamin Franklin, J. W. Becker, J. W. Singleton, J. G. Brooks, C. A. Elliott, W. D. Senter, and L. M. Lovelace.

Nominations for new members being in order, the names of the following gentlemen were referred to the Committee on Credentials: Drs. W. A. Boyd and Butler Boyd, of Mayfield; J. W. Futrell, of McCracken; J. D. Winter, of Callencey; W. M. P. Pool, of Marshall; C. G. Royster and B. F. Marshall, of Woodville; —— Bush, of Smithland; R. C. Mayes, and R. D. Porter, of Graves county.

The committee retired for consultation, and in a few minutes returned and recommended the election of the aforementioned physicians to membership in the Association. A vote was at once taken upon the entire list, and they were all unanimously elected.

The Chair then appointed the following members as the Committee on Nominations for the selection of officers for the ensuing year: Drs. R. Saunders, Rivers, Slaughter, Woodson, Dismukes, Thompson, Richardson, Carson, Robinson, Anderson, Winter, Boyd, and Franklin.

Adjourned until 2:30 P. M.

AFTERNOON SESSION.

The Association convened at the appointed hour, with thirty-five members present.

After the Convention was called to order the report of the Committee on Nominations was received, as follows: Dr. J. W. Thompson, of Paducah, President; Dr. O. B. Withers, of Lyon county, First Vice-President; Dr. A. A. Slaughter, of Ballard county, Second Vice-President; Dr. J. W. Singleton, of Florence Station, Recording Secretary; Dr. J. G. Brooks of Paducah, Corresponding Secretary, and Dr. R. Saunders, of Paducah, Treasurer. The report was unanimously adopted, and the committee discharged.

A committee was appointed to conduct the President-elect to the chair; the newly-elected officers assumed their respective places, when Drs. Thompson and Singleton returned their grateful thanks for the honor done them by the Association, and promised, with the best of their ability, to discharge the duties of the very responsible positions in which they have been placed by the too partial consideration of their medical brethren.

Dr. John Anderson, ex-Treasurer, made a report of the financial condition of the Association, which was highly satisfactory.

Reports of Special Committees.—Dr. E. B. Richardson read an interesting report on "Entropion." The thanks of the Society were voted unanimously to Dr. Richardson for his valuable paper, and it was referred to the Committee on Publication.

[This report contains many practical suggestions with regard to the treatment of the above-named troublesome disease of the eye, and we doubt not but the Profession generally will be benefited by its perusal.]

Dr. J. G. Brooks then read an explanatory essay on the history, nature, and treatment of syphilis. The Association gave marked attention to the reading of Dr. Brooks' paper, and unanimously voted thanks to Dr. B. for the industry and skill he has manifested in the preparation of his report. Referred to the Committee on Publication.

Drs. Slaughter, Senter, Payne, Hunt, Rivers, and Singleton,

were granted further time to finish up and present their respective reports.

The Chair appointed the following gentlemen as the Committee on Publication for the ensuing year: Dr. M. H. Carson of Smithland; Dr. C. J. Royster, of Woodville, and Dr. John L. Dismukes, of Mayfield.

Adjourned until 8:30 P. M.

THE NIGHT SESSION

Opened with Dr. O. B. Withers in the chair. Dr. J. W. Thompson commenced the exercises of the evening by reading a report upon "Compound Fractures," in which he reported three cases of great interest to the Profession; the first, that of a broken fibula; the second, a case in which both bones of the leg were broken; and the latter, a case of compound fracture of the femur. Gangrene followed in each case of amputation which was treated with carbolic acid, iron, quinine, whiskey, and nourishing diet. The latter case mentioned in Dr. T.'s report improved rapidly under the aforementioned prescription as to the appearance of local symptoms, when the patient was attacked by tetanus, and died.

The thanks of the Society were cordially tendered to Dr. Thompson for his excellent paper, which was referred to the Committee on Publication.

Dr. Rivers, of Ballard, made a report of a case of typhoid fever attended by *retention of urine*, which lately occurred in his practice. The patient was relieved by the use of the catheter for the first twenty-four hours after the complication of urinal obstruction arose. He afterwards found it impossible to introduce the instrument even when he had his patient under the influence of chloroform, though the urine would of itself come away *in gushes*.

Dr. Rivers was assisted by his accomplished neighbor, Dr. Elliott, and after the free administration of opiates, a spontaneous evacuation of the bladder took place. Dr. Rivers had no further trouble with his patient on this score. Patient had suffered from gonorrhœa, and afterwards stricture of the urethra;

was not satisfied in regard to the cause of the difficulty in question. He asked the Association whether the *spasmodic gushes* of urine were produced by a hypertrophied prostate gland or spasm of the urethra?

Dr. J. W. Thompson was of opinion that the complication in Dr. Rivers's case arose from *local congestion*, produced, perhaps, in some measure by the frequent use of the catheter producing irritation, and thereby congestion—(ubi irritatio ibi fluxus).

Dr. Carson asked Dr. Thompson how the sudden *gushes* of urine could be accounted for on the congestion principle? Dr. T. replied, that sudden congestion of the prostatic portion of the urethral canal and the neck of the bladder might have given rise to the trouble with which Dr. Rivers had to contend.

Dr. Singleton wished to know of Dr. Rivers what was "the condition" of "the organ" at the time of the retention and between "the gushes." Dr. S. said that the obstruction must have been *spasmodic* in its character, for he could not see how a sudden local congestion of the organ could exist without erection, which was not present in this case; and, to carry out Dr. T.'s idea, the patient must have had an erection, for there could have been no sudden local congestion without "congestion" of the whole organ. Dr. Rivers did not agree with Dr. S. in his *spasmodic diagnosis*, for had Dr. S.'s views been correct, the chloroform and opium would have promptly relieved the difficulty. Chloroform always relieves spasm, at least for the time being.

Dr. Thompson recommended the warm hip-bath, and endorsed the opium treatment in such cases with great confidence. In this connection, Dr. Senter related a case as having occurred in his practice. An old man who had generally enjoyed good health, was attacked with colic. Dr. S. gave morphine freely to relieve pain and cramp. Retention of urine followed. He made two vain attempts to introduce small size catheters, but found no trouble in introducing a catheter of the largest size.

Dr. Anderson, of Fulton Station, related a case of an old gentleman who was relieved of stricture by passing a stream of

very warm water through a catheter up to the point of obstruction.

Dr. Rivers's paper was referred to the Committee on Publication.

Dr. Anderson made a report on a number of cases of cerebro-spinal meningitis. This gave rise to a lengthy discussion on the history, nature, and treatment of this very fatal malady. The general conclusion was that *epidemic* cerebro-spinal meningitis, as a rule, could not be cured; but where cases of a sporadic form occurred, there might possibly some recoveries occur.

Drs. Withers and Senter endorsed the foregoing position with some remarks of practical importance in the diagnosis and management of this and other kindred diseases.

Dr. Anderson's paper was referred to the Committee on Publication.

Dr. Singleton reported a case of child-birth, in which the mother (a deformed woman) weighed only sixty-five pounds; the child five and a half pounds. The infant, a boy, had congenital occlusion of the mouth of the urethra. This was opened with the point of a small, sharp pen-knife, the urine passed freely, and mother and child are doing well.

Dr. W. R. Robinson called the attention of the Asssociation to an epidemic form of roseola, which has been passing through his region for some months. The patient is generally taken with chilly sensations, hoarse voice, suppression of the conjunctiva, more or less cough, and that of a *mealy* character, a good deal of tosillitis; in fact, the patient looks very much like he has the *measles*. The febrile symptoms last from three to five days, and the characteristic eruption beginning at the commencement of pyrexia is at its height about the time of the abatement of the fever. The disease in question has been called "black measles" by some "domestic medicine men," "scarlet rash," and by other names too numerous to mention. Head symptoms frequently occur during the history of a majority of cases, and often marked evidences of cerebral congestion. Dr. Robinson has but little difficulty in successfully treating the

cases that have come under his care, and such has been the experience of the Recording Secretary. Dr. R. trusts but little to the curative powers of medicine, *per se*, in the management of this epidemic form of roseola so called; but has contented himself by meeting symptoms as they occur with the simplest means he could possibly use, feeling assured that the disease would run its course any how, "in spite of physic or the doctor."

Drs. Withers, Senter, and Singleton agreed with Dr. Robinson in the premises, their own experience bearing ample testimony to the expectant or conservative plan of treatment as being the best in such cases; the idea is "*to pilot*," and not to *engineer* the sufferer through the complaint under discussion.

Dr. Carson, of Smithland, wished to know of the Society what to do in cases of epidemic or sporadic cerebro-spinal meningitis?

Dr. Saunders, of Paducah, said that he had a few cases of this disease under his charge during the late war which ended fatally.

Dr. Elliott's experience coïncided with that of Dr. S., whose treatment was mercurials and quinine.

Drs. Becker, Dismukes, and Robinson supported the position taken by Drs. Saunders and Elliott in prognosis that but little or nothing can be done by the physician to save the patient from almost certain death when attacked by epidemic cerebro-spinal meningitis.

Dr. J. W. Thompson admitted the fact, that occasionally a highly congestive form of measles might possibly be mistaken for a modified form of cerebro-spinal meningitis at the commencement of the attack.

Dr. Dismukes thinks that in these, as in Dr. Anderson's cases of "cerebro-spinal meningitis," there must be a very great mistake made in diagnosis.

Dr. E. B. Richardson remarked that when a physician once saw a case of the disease in question, he could never mistake any other disease for it, or it for any other malady.

Dr. Becker wished to know one simple unmistakable symptom of cerebro-spinal meningitis?

Dr. Senter proceeded to answer the question according to the best authority we have on the subject.

Dr. Dismukes reported an interesting case that lately occurred in his practice, that of a compound fracture of both bones of the leg, in which amputation had to be performed three times, in consequence of gangrenous sloughing and secondary hæmorrhage. Large abscesses were found in the limb; the patient came near dying from gangrene, loss of blood, and suppuration. The subject of the foregoing most dangerous and terrible ordeal is now alive and well, and with a good artificial leg, shall soon be able to do something for a support of his wife and little ones.

Dr. Dismukes was requested by the Association to make a written report of the case, and present it at our next meeting. This he promised to do.

Dr. Woodson, of Woodville, made some remarks in regard to a case of dislocation of the elbow joint, in his practice. This occurred but recently. He was called to the man soon after the accident occurred, and upon careful examination found slight *crepitus* in the injured joint. He was of opinion that more or less fracture existed, but he reduced the dislocation, put the arm in proper position, dressed with splints for support, a stout, healthy blacksmith, went to work at his trade, with both arms, in less than two weeks. "Did fracture really occur in this case, as the dislocation was from before backwards?"

Dr. J. W. Thompson replied that he has never seen a case of this description without more or less fracture.

Dr. Richardson reported a case of anchylosis of the elbow joint following a dislocation, and remarked that there is always more or less deformity in such cases as well as fracture.

Dr. Becker wished to hear the views of the members of the Association in reference to the need of extension and counter-extension in the treatment of fractures generally.

Dr. Thompson said that, for his part, he felt that he had

done more harm than good in treating fractures after the old plan of stretching the life out of a broken limb to make it get well. Dr. Thompson's manner of treating fractures is to adjust the fracture and dress with sand-bags and straps. He is sometimes compelled to use extension in the fracture of the femur; but he remembers a case quite recently in which he could use neither extension nor counter-extension, and his patient made a good recovery without any perceptible shortening of the limb.

Dr. Becker mentioned a case in his professional experience of fracture of the left thigh-bone, in which a *spontaneous* cure took place without any shortening of the limb.

Dr. Carson called the attention of the Association to the case of himself—a fractured thigh-bone about three years since, in which he can perceive no difference in the length of his two legs, and no limping.

The foregoing cases of fractures gave rise to many questions and a great deal of discussion among the members present, and the general sentiment of the Association seemed to be that the simplest mode of treating such accidents incident to the human frame, is generally the best; giving the utmost importance to proper position, and absolute rest and comfort to the patient, without unnecessary instrumental incumbrances for appearance sake.

Dr. O. B. Withers reported a case of *puerperal mania*, following an attack of *eclampsia*. The lady, aged fifteen years, had a fair delivery, but convulsions followed soon after the birth of the child. He found her almost pulseless; jaws as firmly locked as with a key; womb well contracted; feet and hands hot and dry. He cupped both temples, but was compelled to divide the temporal artery. She bled considerably by this means; the pulse gradually rose, and she soon became able to swallow. Dr. Withers then gave her in the course of sixteen hours at least 150 grains of calomel, followed in five or six hours by castor oil and spirits turpentine. This constituted the treatment of the case for twenty-four hours after Dr. W. took charge of it.

Second day, the patient returned to a state of consciousness, and had no more convulsions. Gave quinine and Dovers's powders during the following day at proper intervals.

Third day, the milk fever set in in regular order of such cases, but the lady denied all knowledge of having given birth to a child. She remembered circumstances that occurred previous to her confinement, but she was utterly oblivious concerning the cause which led to the convulsions and lapse of memory. Dr. Robinson spoke of a similar character that occurred in his practice about a year since, in which the woman has not recovered her memory yet. Dr. Saunders, Becker, and others, supported Dr. Robinson's views, that loss of memory and more or less mental obliquity, frequently follow puerperal convulsions. Dr. E. B. Richardson advanced the idea that *the cause* of puerperal mania might be the washing of blood-clots into the brain, and these lodging in position to produce local or partial softening in that organ.

Dr. J. W. Thompson has a case at the asylum now in which the woman imagines herself bewitched. This condition of her mind followed an attack of child-bed convulsions, and still remains. Dr. T. remarked in this connection that he was satisfied that many cases of a like character now in the lunatic asylums of the country ought to be in well-regulated women's hospitals, where the great majority of such cases of mania might be cured. Dr. Dismukes endorsed Dr. Thompson's position, and gave the Society some of his own experience and observation in this very delicate and responsible part of our humane endeavors to benefit womankind.

Dr. Richardson mentioned a case of *coup de soleil*, followed by partial paralysis of the left arm and loss of memory for six or seven years after the attack of sunstroke. At the expiration of this period this man was attacked by congestion of the brain and intense pain in the cardiac region. He was actively treated with mercurial cathartics, Cook's pills, ipecac, etc., and at once entirely recovered all of his lost faculties of limb and mind.

Dr. O. B. Withers, of Lyon county, made a brief and pointed

address to the Association, urging the importance of the building of the third lunatic asylum in the State of Kentucky, and of its location somewhere in the first congressional district. At the conclusion of Dr. Withers's remarks, a motion was made and unanimously adopted that the Chair appoint a committee composed of fifteen members of the Society, whose duty shall be to write an address to the next General Assembly urging the adoption of the pending lunatic asylum bill, a measure so much needed by the many homeless and friendless lunatics in our State; whereupon the President named the following gentlemen to discharge the duties of the committee in question: Drs. O. B. Withers, M. H. Carson, R. Saunders, D. A Maxwell, J. W. Singleton, G. Beeler, Thomas Rivers, C. G. Royster, C. A. Elliott, A. J. Watson, J. L. Dismukes, W. D. Senter, B. Franklin, J. W. Becker, and E. B. Richardson.

On motion, the President (Dr. Thompson) was added to the foregoing committee.

A resolution was then adopted by the Association requesting a full attendance of the Medical Profession of Western Kentucky at our next meeting, with special reference to success in in the third lunatic-asylum movement, and to bring about united action in the matter previous to the meeting of our next Legislature.

Adjourned at 11:30 P. M. to meet again on to-morrow at 8:30 A. M.

TUESDAY'S SESSION.

Convention called to order at the appointed time—Dr. A. A. Slaughter, of Milburne, in the chair.

Dr. A. J. Watson read an interesting account of a remarkable case of pulmonary abscess which he had recently treated successfully.

Dr. Watson's report is of rare practical excellence, and was referred with the hearty thanks of the Association to the Committee on Publication.

Dr. Watson also reported a case of eczema caused by the internal administration of Fowler's solution and the external ap-

plication of an ointment of carb. zinc. Dr. Robinson suggested a prescription in the treatment of tinea *capitis* and eczema, which he has used with much success.

℞.—Liquid Tar, ℥i.;
Oint. Nit. Mercury, ℥ij. M.

S. Apply in thin plaster every third day. Dr. Robinson gives Fowler's solution for awhile after the local trouble is relieved.

Dr. Singleton gave some of his experience in the use of carbolic acid in ulcerations of the mucous membranes. He cherishes great confidence in its virtues in such complaints, and confidently recommends its use to the members of the Association and the Profession at large.

The following committees are to report at our next meeting: Dr. W. R. Robinson, Physical Culture; Dr. E. R. Richardson, Cerebro-Spinal Meningitis; Dr. J. W. Singleton, Conservative Medicine; Dr. D. A. Maxwell, Pulmonary Consumption; Dr. C. A. Elliott, Diagnosis; Dr. J. G. Brooks, Syphilis; Dr. O. B. Withers, Puerperal Peritonitis; Dr. M. H. Carson, Medical Biography of Western Kentucky.

Dr. Withers urged the importance of all members of the Association coming to our next Convention fully prepared to discharge the various duties assigned to them, so that our Society can be kept in an active state of practical efficiency and of increasing benefit to the Medical Profession.

Dr. D. A. Maxwell insisted upon the propriety of taking accurate and reliable notes in all important cases that may occur in our every-day practice; let the Society hear and discuss the matter of our reports, as we shall thereby enhance the practical effects of our good work as followers of legitimate medical science.

Dr. J. W. Thompson requested the membership to report their unsuccessful as well as successful experience in the Profession, as we learn as much from our failures as we do from our triumphs in the healing art.

Dr. A. J. Watson suggested the use of strong styptics in the

arresting of uterine hæmorrhage. Dr. R. Saunders has more confidence in ice in such cases than in anything else. Dr. Richardson reported a case of this kind in which he used gallic acid and glycerine locally, and acid aro. sul. internally with success.

Dr. Watson insists that hydrate of chloral is almost a specific in the treatment of *delirium tremens*. He gives it in doses of from twenty to sixty grains.

Dr. Singleton remarked, that the administration of one ordinary dose of ergot just before delivery *in all cases* of labor, will prevent excessive uterine hæmorrhage in forty-nine cases out of fifty. Dr. Richardson uses two grains of the sul. quinine every two hours to promote uterine contraction whenever he fears the loss of the contractile power of the womb.

Some remarks having been made by Dr. Richardson and others touching the character of criticism that ought to govern the discussions of the Association, Dr. Senter, of Ballard county, insisted that honesty, truth, and candor, should be the governing principles of all reports (verbal and written) that may come before this or any other body of men who are engaged in scientific investigation. Dr. Senter concluded by saying that all medical doctrines and suggestions that will not bear the test of searching criticism and of honest practical experience, ought not to be believed in or defended by men engaged in the exercise of the responsible offices of our noble profession, whose mission is to heal and save, and not to work experimental destruction upon the health and lives of our fellow-men.

After Dr. Senter had taken his seat, there followed a lengthy discussion upon the accidents and complications of child-birth, and especially in reference to the best manner of relieving uterine hæmorrhages.

Drs. Saunders, Thompson, Senter, Withers, Robinson, Richardson, and Dismukes, took part in the argument, and though no new ideas were advanced, yet the younger members of the Profession felt themselves strengthened and advanced in the knowledge of the uterine experience of the veterans of medical

practice in Western Kentucky. But one wish seemed to pervade the entire Association, and that was that the truth should be told in all cases as to the simplicity or gravity of the cases reported for the candid and impartial criticism of its members, and that members (old or new) should pass for exactly what they were worth, and no more.

By Dr. W. Robinson—.

Resolved, That we consider it the duty of all members of the Medical Profession to encourage and sustain the medical press, and especially that of our own State and the South, and that each physician should be a regular reading and *paying* subscriber to one or more medical journals of the country, so that all can have the benefit of the reported medical experience of the whole Profession, and a perfect knowledge of all new medical discoveries. Adopted without dissent.

By Dr. J. W. Singleton—

Resolved, That the thanks of the members of the Southwestern Kentucky Medical Association are eminently due and are hereby most gratefully tendered to the Confederate Relief Association of this city for the use of their elegant hall during the sitting of the present Convention.

Resolved, That the thanks of the Association are richly due to our retiring officers for the very able and efficient manner in which they have discharged the various duties of their respective offices. Passed unanimously.

By Dr. O. B. Withers—

Resolved, By the members of the Association outside of the city, that we are profoundly grateful for the warm reception and hospitable treatment we have received from the members of the Profession of the city of Paducah at our present meeting. Adopted most heartily.

By Dr. J. W. Thompson—

Resolved, That the "Richmond and Louisville Medical Journal," and the "Nashville Journal of Medicine and Surgery," be respectfully requested to publish the proceedings of the Association. Passed unanimously.

The following report was received:

"We, the Committee on Publication, recommend that the paper read by Dr. E. B. Richardson on 'Entropion,' and so much of the paper begun at last meeting and finished at this

upon 'Syphilis' as is contained in the first twenty-one pages, by Dr. J. G. Brooks's paper, be published. We also recommend the publication of the report read by Dr. A. J. Watson upon 'Pulmonary Abscess and Eczema.'"

H. M. Carson,
C. G. Royster,
John L. Dismukes,
} Committee.

The time for our next meeting was fixed for the second day of "the Fair" at the city of Paducah in October next.

Benediction by Dr. Withers—

Our Society is now a chain,
Rend not its woven links in twain;
Let not her sons her beauty mar,
Or pluck from our flag a single star.

With peace and harmony prevailing, the Southwestern Kentucky Medical Association adjourned a most interesting and profitable meeting. J. W. Thompson, President.

J. W. Singleton, Recording Secretary.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

The First Annual Congress of German Surgeons.

Sir,—The First Annual Congress of German Surgeons met in the great hall of the Hôtel de Rome, in Berlin, on April 10, 1872. The idea of a Universal German Surgical Association is new, and owes its origin and realization principally to the efforts of Profs. von Langenbeck (Berlin), Volkmann (Halle), and Simon (Heidelberg), the first of whom presided at the first meeting and superintended the election of the officers. Of the 124 members who have thus far joined the Society about 100 were present, among whom were visible almost all the professors of surgery and chiefs of surgical clinics in Germany, with

a number of assistants and military surgeons. Conspicuous were the elegant and courtly Langenbeck (Berlin), the venerable Emeritus Professor of Surgery in Berlin, Jüngken, the manly and imposing Billroth (Vienna), the nervous and excitable Bruns (Tübingen), Bardeleben (Berlin), Baum (Göttingen), Busch (Bonn), Heine (Innsbruck), Simon (Heidelberg), Dehler and C. Textor (Würzburg), Volkmann (Halle), Wernher (Giessen), Dr. Grimm, Surgeon-General of the Prussian Army, etc. A large number of guests were likewise present, among whom I noticed Spiegelberg and Olshausen, Professors in Obstetrics in Breslau and Halle, and Cohnheim, Professor of Pathological Anatomy in Kiel.

Professor von Langenbeck welcomed the assemblage, and then proceeded to cause the election of the officers for the ensuing year, which resulted in the choice of Langenbeck (Berlin) as President, Bruns (Tübingen) Vice-President, Volkmann (Halle), and Gurls (Berlin), Secretaries, and Trendelenburg (Berlin), Treasurer. Profs. Billroth, Bardeleben, Baum, and Simon were chosen a committee to act with the above-mentioned officers in the regulation of the statutes and any chance questions occurring during the year. The statutes, adopted at the second meeting, declare the object of the Association to be a union of surgical capacities (no direct reference being made to nationality) for the purpose of facilitating the exchange of ideas and promoting general scientific labors through personal intercourse. The meetings of the Association to be held annually at Berlin from the 10th to the 13th of April, are to be occupied by scientific lectures, demonstrations, and debates, and are open to all guests. Every person engaged in surgery can become a member under certain minor conditions.

After all preliminaries were settled, Professor R. Volkmann (Halle), read a paper on "Comparative Statistics of Injuries occurring in time of War and Peace," in which he described his experience during the wars of 1866 and '70, and came to the conclusion that the results obtained by operations are much better, and in fact the mortality from gunshot wounds is much

less in war than during analogous circumstances in time of peace. This statement, which may appear improbable at first sight, when we consider the great difficulties attending the treatment and transportation of the wounded during war, owes its foundation doubtless to the healthy and vigorous constitution of the soldiers, who in Germany are chosen among the strongest and soundest men in the prime of life, whereas a great part of the operations performed in ordinary civil practice are called for by wasting and debilitating diseases. The mortality of complicated fractures of the leg in war is 23 per cent., in civil hospitals, 38; of fractures of the thigh in war, 44; in peace hospitals, 60 to 70 per cent. Under conservative treatment the results are still worse in civil hospital practice, being 32 per cent., whereas, with exclusion of very rapid unfortunate cases, we have a mortality of only 17 per cent. in time of war. Attention was also called to the fact that very extensive comminuted fractures, with as many as twenty small fragments, occasionally united completely without necrosis of any portion. The assertion made by Prof. V., that the fate of a detached piece of bone, whether for necrosis or union, is generally decided by the fifth day after the injury, called forth an animated discussion from Professors Busch, Langenbeck, Bruns, Simon, and Wernher (Giessen), and ended in a qualification of the original assertion.

The second paper read was one on a "Form of Lupus similar to Epithelioma occurring on the Extremities," by Prof. Busch (Bonn). The disease which, microscopically, cannot be distinguished from epithelioma, still differs from it in the peculiar manner of its progression in the fact that the adjacent lymphatic glands do not become involved, and in the mode of cicatrization and the contraction of the skin and joints resulting therefrom, in which particulars, as well as in its curability and the absence of danger to life, it strongly resembles lupus. Several similar cases have been observed by Professors Simon and Wernher, in one of which the amputation of the diseased arm became necessary.

The third paper, on "The Minute Appearances in the Tissues on Application of Tincture of Iodine," by Dr. Schede (assistant in Halle), was a report of a series of experiments on animals, the result of iodine being first hyperæmia, then swelling, effusion of red corpuscles, which are partly taken up by the lymphatic spaces, and partly organized into connective corpuscles, and gradually undergo fatty degeneration, cessation of circulation, and finally, if the application be repeated, necrosis of the skin and subcutaneous tissues.

The second session was held the next day from 12 to 4 o'clock.

Professor Roser, of Marburg, being prevented from appearing, had a short paper distributed, in which he wished special attention paid to the investigation of the micrococcus to which pyæmia is supposed to be owing, and proposed a resolution desiring the government and medical faculties, as well as private individuals, to offer all facilities for a thorough research into the subject. The Association did not, however, appear to be of the opinion that the matter would be benefited by such rapid and impulsive action as Prof. Roser seemed to wish, and took no action on the question.

Dr. Trendelenburg (assistant to Langenbeck) reported a case of stricture of the trachea, which made tracheotomy necessary. The stricture was divided with the knife, and during convalescence was dilated with bougies, which, the canula still being worn, are passed by the patient herself through the mouth. She has recovered her voice and breathes easily through the natural orifice, the canula being retained and kept closed only as a safeguard in case the stricture should again become troublesome. Dr. T. then showed an apparatus (described in Langenbeck's "Archive" some two years ago) contrived by himself for the purpose of tamponing the trachea in order to prevent the flowing of blood into the bronchi during operations about the mouth and jaws, a prophylactic tracheotomy having been performed. The apparatus consists of a small rubber balloon, which is attached around the inner portion of the canula, and is inflated through a rubber tube, which passes externally by

the side of the canula. To this tube a longer tube with a sponge may be attached and anæsthesia carried on in this way through the trachea. Professors Langenbeck and Simon have both used this most ingenious contrivance in several cases of operations about the tongue and upper jaw, and consider it of great value, as there is no doubt that the flowing of blood into minute ramifications of the bronchi frequently causes bronchitis and pneumonia. Professor Heine suggested that a larger balloon be introduced by the mouth so as to occlude the pharynx likewise and prevent blood from flowing into the stomach (tracheotomy having, of course, been previously performed), as large quantities of blood can be received by the stomach and the patient become anæmic without the knowledge of the surgeon. This manipulation has moreover been performed in one instance by Professor Nussbaum, of Munich.

Dr. Stilling (Cassel) read a very interesting paper on "The Pathogenesis of Strictures and the Minute Anatomy of the Human Urethra," in which he pronounced the penis, according to his microscopic examinations, to be an organic muscle, and the process of erection the result of arterial hyperæmia, and not of venous congestion, as is now generally supposed. The corpora cavernosa are composed entirely of organic muscular fibres, which surround the arterial ramifications and divide the sinuses by means of septa; these sinuses themselves are nothing more than the dilatations of the capillary branches of the arteria dorsalis penis, and open respectively into capillary branches of the veins of the penis. The organic muscular fibres pass into the mucous membrane of the urethra and thus give contractility to the canal. An inflammation of the urethra causes a degeneration of these muscular fibres in a greater or less degree, and thereby the contractility and diameter of the canal become impaired. The microscopic specimens illustrating these assertions were demonstrated to the Association. Further observations will, of course, be necessary in order to decide this question.

Dr. Metzler (Darmstadt) next related his experience in resec-

tion of the knee-joint. He had performed the operation in civil practice eleven times with seven perfect recoveries; he made a convex flap downwards, extirpated the patella, as well as all remnants of synovial membrane, approximated the fresh surfaces of the bones, and in case of need held the end of the femur downwards and in apposition with the tibia by means of Malgaigne's sharp thorn, which he passed through the flap into the femur, and from which he had never seen any bad results; the splint he used was the straight English one of sheet-iron with a foot-board and bilateral openings at the knee.

The third session was held April 12th, and several very interesting subjects were brought forward. After the appointment of a committee of nine for the purpose of collecting statistics on all subjects relating to surgery, Dr. Bush (assistant to Langenbeck) reported six cases of extensive comminuted fracture of the skull with depression, three of which he presented to the Assembly. The cases were all treated by simple elevation of the depressed bone, extraction of loose splinters, and subsequent necrotic portions, in fact, conservatively; trephining was adopted only twice, and then intermediarily when symptoms of paralysis appeared, but without success. Three patients recovered entirely, one is still in process of recovery, and two died. He advocates immediate decision as to the mode of treatment, either conservatively or operatively—that is, by means of the trephine; but then strict adherence to the plan once adopted, no intermediary or secondary trephining, which can rarely be of service in relieving the already diseased brain, and is then employed only as a last resort.

Dr. Mühlvenzel, a military surgeon from Vienna, demonstrated a very simple and convenient field-stretcher, a hospital and ambulance stretcher of crenelated sheet-iron, capable of being placed on a double inclined plane, and the model of an ambulance, all of which are now introduced into the Austrian army, a detailed description of which would, however, occupy too much space.

Dr. Wegner (assistant to Virchow) reported his most inter-

esting and valuable experiments on animals (rabbits, dogs, chickens, and calves) with phosphorus, the administration of which drug he found to promote osseous growth, cause the diploë to become more dense, occasionally similar to ebony, and hasten the formation of callus in cases of fracture. He called attention to the possible value of a rational administration of pure phosphorus (in infinitesimal doses to prevent gastric disorders—of the various salts of phosphorus he had not found any effect) in osteomalacia, rachitis, and fractures. His remarks were illustrated and verified by numerous specimens of bones at different stages of treatment.

Dr. Bidder (Cassel) reported a series of cases of simple fracture of the femur, which were treated merely by extension without compressive splints or bandages, and which united with either none, or from one to three centimetres shortening; a strong development of the muscles or displacement of the fragments would probably necessitate the application of retentive bandages.

At the fourth and last session, April 13th, Dr. Wolff (Berlin) demonstrated a number of thin sections of long bones, to explain his theory on the growth of bones, which he supposes to grow by dilatation, and not by apposition and external growth, as it is generally believed.

Dr. Danzel (Hamburg) reported his experiences at the Marien Krankenhaus at Hamburg, which brought nothing particularly new; and Prof. Heine (Innsbruck) read an interesting paper on "Parenchymatous Injections as a Means of Destroying Tumors." He had made injections of pepsine, hydrochloric acid, nitrate of silver, and salt water, iodine, etc., injecting 6-8 subcutaneous injection-syringes full every third or fourth day into the periphery and centre of the tumor; in general he had obtained only negative results, in one case, however, which is still under treatment, the injection of dilute hydrochloric acid during eight months produced a considerable waste and shrivelling of both cancerous mammæ, the duration of which good result is still uncertain. He also injected a solution of iodide of potas-

sium and iodine through the rectum into a hypertrophied prostate, which prevented the free discharge of urine, and thereby caused an abscess and consequent waste of the gland, and of course the cure of the patient.

Prof. Billroth rose to warn against the indiscriminate use of such injections into tumors; his results, chloride of gold, argentum nitricum, pepsine, and alcohol having been employed, had been entirely negative except in one case where the injection of pure alcohol into a large lymphoma of the neck had caused putrefaction of the tumor, acute septicæmia and death on the fifth day. A previous incision into the lymphoma had given exit to a quantity of fœtid brown fluid with a peculiar odor of acetic acid (from the decomposition of the alcohol) and containing numerous bacteria. The body, although in winter, became decomposed very rapidly. Billroth mentioned that he had been engaged in investigations on the subject of pyæmia for the last four years, and had not as yet attained any definite result, so that he is inclined to regard all positive observations on the fungoid origin of the disease as at best premature.

Dr. Maas (Breslau) said that Prof. Cohn of the same city had discovered bacteria in pure alcohol, even after the same alcohol had been distilled, and that, contrary to the opinion entertained heretofore, the fungus found in yeast occasionally occurs together with bacteria.

Prof Bardeleben said that according to his experience the quality of the fluid injected is immaterial, if only a large quantity be introduced and brought thoroughly into contact with the tissues; thus pure water would answer the purpose just as well as acids, etc.

Prof. Langenbeck begged to be excused from reading his announced paper on "The Desirable Union as to the Principles of Treatment in Gunshot Wounds of Joints," on account of the length of the article and the late hour, and only desired to express the hope that the conservative treatment of joint-wounds might become more and more general, and amputation be employed only in such cases where the primary examination shows

such an extensive destruction of bone and soft tissue as to preclude all hope of saving the limb.

A silver catheter with a soft rubber tube, designed to be passed through it and left in the bladder in cases of stricture, the catheter being withdrawn, invented and used by Professor Thompson, of London, was demonstrated.

Dr. Furstenheim (Berlin) showed a similar article of his own contrivance, which he occasionally uses.

Dr. Alderman (Berlin) reported two cases of swallowing a fork, in one of which the instrument was removed by gastrotomy, the patient dying some time after of necrosis of the ribs; and in the other the fork was discharged per anum after several weeks.

Dr. Uhde (Braunschweig) gave an account of six cases of transfusion performed by himself for the relief of anæmia and marasmus resulting from excessive loss of blood and suppuration in surgical cases, all of which were unsuccessful; in apposition to these he reported several entirely similar instances, in which the patients recovered without the aid of transfusion, and proceeded to draw therefrom the rather unwarrantable conclusion, that the value of the operation is greatly overrated, that when successful it is generally not necessary, and when necessary, is employed too late to be of use.

This being the last article announced, Prof. von Langenbeck expressed his satisfaction at the results obtained during the first meeting, and hoped to see the members all again a year hence, and closed the Congress.

During the forenoons of April 12th and 13th, Prof. Simon, of Heidelberg, lectured in the Surgical Clinic of Prof. Langenbeck, 1st, on the differential diagnosis between hydro-nephrotic and ovarian tumors, and exhibited a male patient with an artificial renal fistula in the right lumbar region through which the finger could be passed into the distended cavity of the kidney; and 2d, on the artificial dilatation of the rectum, which can be practiced manually, by means of instruments and by the knife. He said that in favorable cases the anus and rectum can be so

far dilated as to allow the hand and forearm to pass the sigmoid flexure and the fingers to become perceptible through the abdominal walls near the ensiform process. For instrumental dilatation he uses two Sims's specula; and in dilatation by means of the knife he makes an incision in the raphe toward the coccyx, preferring this method to lateral incisions, or to the perineal flap with posterior basis advocated by Huster, of Greifswald. He employs this incision in all cases of operations where a clear insight into the cavity of the rectum is necessary (as for instance in scraping out cancerous tumors of the rectum with the sharp-edged spoon-like curette of Sédillot, a procedure strongly advocated by him and Prof. Volkmann for the purpose of retarding the ultimate fatal end), and in operations for the cure of recto-vaginal fistulæ, old perinæal ruptures, wounds of the rectum, where he gives laxatives and prefers easy fluid dejections to the constipating method. He demonstrated two gunshot wounds, one of rectum and bladder, the other a French soldier, of the colon ascendens, which he, Simon, had operated upon by means of transplantation of flaps of skin, and so far closed as to leave only a small opening in the right side. He also showed a bed for wounds of the leg and thigh composed of a number of small cuboid cushions covered with rubber, and so arranged as to be movable at will without moving or lifting the patient, thus controlling decubitus and facilitating the cure of the wounds, especially those of the posterior portion of the thigh.

Prof. Langenbeck presented an officer upon whom he had performed resection of the tibio-tarsal articulation, removing two inches of the tibia, the astralagus, cuboid bone, and part of the os calcis; the patient had recovered almost perfect use of the foot and could walk without fatigue for an hour or more. The capsule and ligaments appeared to have become partly ossified.

The social and bodily interests of the members of the Association were in part cared for by two sumptuous dinners at the Hôtel de Rome, at which numerous toasts were proposed, such

as Prof. Bruns on "The Emperor;" Langenbeck on "The present Guests and the absent Members;" Wernher (Giessen) and Rusch (Bonn) on "Langenbeck, the Teacher and Friend;" Goachen (Berlin) on "The Ladies;" Gurit (Berlin) on "Germany Politically and Scientifically United, and Berlin its political and intellectual Capital," etc. The members, besides, met, as is customary in Germany, in the evening, at the different restaurants and showed their appreciation of the good beer as native Germans should, refuting by their own persons and names the slanderous reports of the stupefying effects of malt liquors.

Called into life and supported as the German Surgical Association is, by the first talent and ability in the land, its future lies bright before it, and promises well for the advancement of surgical knowledge.—*Medical Record.*

STOCKTON, CAL., June 10, 1872.

Dr. E. S. Gaillard:

Dear Sir,—Since a considerable portion of your excellent Journal has of late been devoted to the consideration of *cerebro-spinal meningitis*, allow me to add a word in reference to the subject. I desire to speak, not so much of the symptoms, causes or pathology of the disease as of its treatment. That the disease partakes of the periodic or paroxysmal type, there can be no doubt in my mind. The cause of this paroxysmal form may be the same as that which gives rise to the periodic fevers. So far as I know, the severest forms of the disease occur in miasmatic localities. More than twenty years ago Dr. R. F. Taylor, of Tennessee, called my attention to this fatal malady in the "New Orleans Journal of Medicine and Surgery;" and, so far as I know, he was the first to call attention to the disease by its present name—*Cerebro-Spinal Meningitis.* The disease then prevailed in many miasmatic districts with great severity in the West and South.

My first experience with the disease was in the winter of 1863, which occurred in the "Madison Hospital" at Greenville,

Tenn., of which I was then in charge. It swooped down upon the half-famished anæmic soldiers in the hospital as the eagle from his ærie upon the tender lamb, and the first three cases, taken on the same day, died in less than twenty-four hours. It prevailed at the same time among the citizens in the surrounding country. Without detailing symptoms, suffice it, that they were just such as have been described by all writers on the subject, and that I then recognized the disease under the present name. Since that time, I had more or less to do with it every year while I remained in Tennessee. I have had a few well-marked cases on this coast, though I am not aware that it has ever prevailed as an epidemic here.

Dr. Taylor relied upon calomel, opium, and quinine in the treatment of the disease. I would recommend the same, with the addition of the tinct. ferri mur. The cases in the hospital, from exposure, bad and insufficient food, were, many of them, anæmic, and did not bear the calomel well, and I soon abandoned it in hospital practice. Most of the fatal cases that occurred were during the calomel treatment. With the citizen patient, the drug was well borne, and gave me great satisfaction. In no case was depletion tolerated either by the lancet or severe catharsis. My recollection is, that there were about sixty cases in the hospital and twenty among citizens. The ratio of mortality I do not now recollect (having lost all notes and books of the occasion), but in the hospital it was one in four, and among the citizens there were but three deaths. When anæmia existed, I put the patient on quinine and tinct. iron, three to five grains of the former; ten to twenty drops of the latter given in simple syrup every two or three hours. I used morphia in decided doses to relieve pain. Externally, sinapisms to the spine, and water the temperature of the air to the head. I always began the treatment where the blood was not poor with ten grains of calomel and from one to two grains of opium, to be followed in five or six hours with oleum ricini, the bowels to be kept open when necessary by the oil. In no case did I wait for the action of the calomel, but commenced the immediate

use of iron and quinine. This is the outline of treatment, and from that day to this I have not been able to find anything better; and while it has not been as satisfactory as I could wish, yet I must say that I feel more confident when I come to attack this formidable disease with these Sampsons of the materia medica, than I do with the most lauded *specifics* for scarlatina or diphtheria. Confidence, backed by sound judgment, relieves anxiety and uncertainty, and leads to success. Faith is just as necessary in medicine as in morals. If we have no faith in remedies the articles become futile in our hands, and we will grow unskillful, because our anxiety, perplexity, and want of confidence prevents a fair trial or a judicious use of them. It strikes me forcibly that the great secret of success in the treatment of disease is, not the important fact of knowing *what* to give, but WHEN to give it. Confidence guides the judgment in the matter. Paine, the American champion of the Lancet, I have no doubt drew blood with success that in other hands would have proved fatal. His confidence and constant use of the lancet taught him *how*, *when*, and *where* to use it.

S. P. CRAWFORD, M. D.

WINNSBORO', S. C., June 4, 1872.

Dr. E. S. Gaillard:

MR. EDITOR,—Dr. Francis Fisher gives in your June number the details of a very "Rare Case in Obstetrics," and as he asks for suggestions concerning its character, I would respectfully submit the following remarks: I never have met with such a case, either in my reading or practice; but can well imagine the embarrassment of a practitioner which such a case would cause, should he not be so fortunate and ready, as Dr. F., in his *management* of it. Therefore, it is imperative that we should study its character and be prepared to recognize it when met with in practice. It seems to me that the woman must have had that form of cervical enlargement which is designated as "longitudinal, cervical hypertrophy;" in this condition the neck often rests between the labia, and even, sometimes, pro-

jects from the body, in some instances, being mistaken for a penis. In such a case we can well understand that labor would be slow and tedious, from the *unnatural* obstacle presented in the *elongated* neck. I have no doubt the belladonna was entirely useless, the obstacle being finally overcome by the protracted efforts of the uterus.

The woman being considered the subject of habitual prolapsus, makes the correctness of my surmise the more probable.

Respectfully yours, J. C. MOBLEY, M. D.

ASSUMPTION, LA., Jan. 27, 1872.

Dr. E. S. Gaillard:

Dear Sir,—On the 19th of last November, Dr. J. D. Ford was called to see a colored man, whom he found suffering from a gunshot wound. The ball had entered the left leg at the middle third, and ranged downwards under the cuticle until it reached the external malleolus, where all traces of the ball were lost, the probe failing to detect it. Eight days after the man died of tetanus. On the 27th I was called, with Dr. Ford, by the Coroner of the Parish to make the post-mortem examination, law requiring the projectile.

Upon examination, we found that the bullet had crossed over toward the external malleolus, where we had lost the traces of it, as I have said before. We found that it had struck the malleolus of that side, bruising it considerably, and then ranged up on the external side of the leg. We followed it in its course as far as the external condyle of the femur, which was also very much bruised; then once more the projectile shaped its course downwards, crossing between the two bones to the internal side of the leg. We found it embedded in the anterior side of the tibia, nearly opposite the orifice of entrance. The bullet proved to be a No. 44-100, Colt revolver.

BORDIS & FORD.

VICKSBURG, MISS., 1872.

Dr. E. S. Gaillard:

Dear Sir,—A stranger at the hotel sends for Dr. A. Dr. A.

being sick himself, requests Dr. B. to attend the call. Dr. B. attends the case to the end, Who is entitled to the fee?

Should Dr. A. recover before the termination of the case, should Dr. B. offer to turn the patient over to Dr. A?

NOTE—The answer will be found in Art. III., Section I., Code of Ethics. Dr. A., of course, should receive the fee, and Dr. B. should retire from the case as soon as Dr. A. is well enough to attend to it.—ED.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

Clinical

CHEMICAL LECTURES ON THE DISEASES OF WOMEN. By Sir JAMES Y. SIMPSON, Bart., etc. Edited by ALEXANDER R. SIMPSON, M. D., Edinburgh, Scotland. Published by D. Appleton & Co., New York. 1872.

This is a posthumous work. It is edited by the successor of Sir James Simpson (in the University of Edinburgh). Most of the lectures appeared originally in the "Medical Times and Gazette" during the years 1859 and 1861. The lectures then printed were from notes taken by the editor of the present volume; the proof-sheets were corrected by the author. Ten of the fifty lectures contained in this volume appear now for the first time. Such are the chief facts connected with this work. As to its material, it is useless to write anything whatever. The author of it all was during his life, most of the time, beyond criticism. The lectures which appear now are fully equal in point of merit to his previous publications. The scope of the work is as follows: Diagnosis and diseases of women; vesico-vaginal fistula; pelvic cellulitis; pelvic peritonitis; pelvic hæmatocele; uterine cancer; dysmenorrhœa; contractions of the vagina; neuroma, hyperæsthesia, neuralgia, and pruritus of the vulva; abscess of the labia; surgical fever; phlegmasia dolens; spurious pregnancy; ovarian dropsy; ovariotomy; cranioclasm; puerperal mania; sub-involution of the uterus; disorders of menstruation; fibroid tumors; rupture of the peri-

neum; uterine polypi; leucorrhœa; prolapsus uteri; retroversion of the uterus; metritis, etc. Here is the list of the subjects analyzed. All know how competent was the author. Those who would know what were his thoughts and views in regard to these subjects, would do well to purchase this classic work. The editor has discharged his duty well, and the publishers have executed their work faultlessly.

Sir James, in connection with the subject of ovariotomy, gives facts of much practical interest and importance. He vindicates completely the claim of Ephraim McDowell to being the originator of this operation, and shows how utterly untenable is the claim of the French, in behalf of L'Aumonier. As an historical fact, it is well to notice the statement by the author, that Percival Pott first extirpated the ovaries, but the operation was not performed with this view, it being simply the intention of the operator to remove a painful tumor in each groin of a female; not suspecting that each tumor was an ovary imprisoned in a hernial sac. Sir James credits Dr. McDowell with eight operations. He shows that, in the grand aggregate, the fatality of the operation is not over forty-one per cent., or, in other words, two patients die out of every five operated upon. An interesting fact developed is that the success of each operator is much increased as the number of operations increases. The operation, in other words, is not as fatal now as it has been. It is demonstrated that the disease is far less apt to return than is an ordinary calculus, or a scirrhus or an aneurismal tumor (in some portion of the person affected) or other morbid bodies, so frequently and approvingly removed. This portion of the work is particularly interesting and instructive. There are 142 illustrations in this excellent work.

AN INTRODUCTION TO PATHOLOGY AND MORBID ANATOMY. By T. HENRY GREEN, M. D., Lecturer on Morbid Anatomy at Charing-Cross Hospital Medical School, etc. London. Henry C. Lea, Philadelphia. 1871.

This is an American reprint of an English work. The author has had excellent opportunities for observation and practical

study. An excellent feature in his volume is that it is elementary, designed for students and those who have not made a special study of pathology. There is in current pathological literature, so much of the transcendental, the mythical, the pedantic, and, of course, the obscure, that all earnest readers will welcome a volume which is written in clear and simple language; which appeals to one's common sense, and not to faith or medical superstition. While this work is comparatively elementary, it will be found to be a fair and brief exponent of the greater portion of what is demonstrable or accepted in modern pathology. The author writes chiefly of the cell; the changes and vices of nutrition; the degenerations; the various tumors usually observed; inflammation in its various stages and in its results; blood changes; tubercle; embolism, etc.

In treating of tubercle, the author seems familiar with the interesting experiments of Villemin, Wilson, Fox, Burdon Sanderson, Cohnheim, and others, but his views or deductions are unsatisfactory. He evidently draws unjust conclusions from the varied and great experiments with which he seems familiar. He seems to adopt the old idea of an inflammatory etiology in tubercle; a dangerous conclusion, as tending to dangerous practice. He fails utterly to realize the importance, as well as the interest, of Sanderson's discovery, that traumatic tubercle is a hyperplastic body, a lymphoma; while true tubercle is a heteroplastic body, owing its origin either to deposits from the blood (as claimed by Carswell, Watson, and others), or to histological transformation, the result of mal-nutrition in those having, from inheritance or an imprudent life, a poor or morbid blood.

In connection with inflammation the author reflects fully the best and most reliable views. He does full justice to the claims of Dr. W. Addison and to Augustus Waller in regard to the identity of the leucocyte and pus corpuscle, and the emigration of the white corpuscle; he also reflects fully the views so well urged (demonstrably presented) by Recklinghausen, Cohnheim, Stricker, Woodward, and others, as to the emigration of the white corpuscle in the second stage of inflammation. The.

proliferation of tissue cells as causative of pus, he does not deny, but he is evidently disposed to abandon this materially abandoned teaching.

One is surprised to find so excellently informed a writer adopting the technology used by Dr. J. Hughes Bennett, of Edinburgh, for that morbid condition, in which the white corpuscles of the blood are largely increased. The error of Bennett in terming this condition leukæmia (instead of leucocythæmia) has been so clearly demonstrated by Virchow, that it is rare indeed to find any author committing Bennett' blunders.

The portion of the work in which tumors and morbid growths are discussed will be found interesting, orthodox, and instructive.

The work is well illustrated and well published. It is small, costing but little, and is highly recommended to those who desire to know pathology reasonably well, while they have not the leisure or the opportunity for studying large and exhaustive treatises.

INSANITY AND ITS TREATMENT. Lectures on the Treatment Medical and Legal of Insane Patients. By G. FIELDING BLANDFORD, M. D., Oxon; with a Summary of the Laws in Force, in the United States, on the Confinement of the Insane. By ISAAC RAY, M. D. Philadelphia: Henry C. Lea. 1871.

These lectures were delivered at the School of St. George's Hospital. They were written for medical students, and the author has therefore not loaded them with the metaphysical and abstruse relations of psychology. For the same reason, he has avoided discussion of the subjects not immediately germane to his audience; such as the practical management of asylums, the disposition of those suffering with chronic nervous disorders, or the necessities of change in the lunacy laws, etc. The lectures are in simple, comprehensive language, and the style acceptable to his audiences and readers. The scope of the work is very great. Indeed, one wonders over the great number of subjects so profitably discussed in so short a space. The reader welcomes a once familiar and pleasant but now obsolete method of arranging each page; that of having the subject of each para-

graph indicated in the margin. For reference this is admirable.

The author, to his praise be it said, does not foolishly (like so many others) undertake to define insanity. "To define true madness, what is't, but to be nothing else than mad," is a sentiment as true in forensic medicine as it is in poetry. The reader will be at first startled, and then pleased with the author's chief underlying dogma throughout the work, "that disorder of the mind means disorder of the brain." No one who examines the volume will fail to accept this law. What is it but the old Roman dogma, "*sana mens in sano corpore?*" The work is fully commended. A most valuable feature in this volume is the appendix. This consists of a summary of the laws in the United States on the confinement of the insane. The name of the author of this appendix is familiar to every one. Who does not know the name and admit the deserved reputation of Isaac Ray?

REPORT TO THE SURGEON-GENERAL OF THE U. S. ARMY ON THE MINUTE ANATOMY OF TWO CASES OF CANCER. By Assistant-Surgeon J. J. WOODWARD, U. S. A., Washington. 1872.

This is an exceedingly interesting, instructive, and important paper. The author shows how difficult it is to represent by wood, copper, or steel engravings a true picture of a cancerous mass, as it is seen by the eye or the microscope. It is more than difficult; it is impossible. He then demonstrates the great value of photo-micrography. By this process, the mass removed, or a portion of it, is accurately photographed; with an exact delineation and relation of all the parts. From such a negative, is then, by the action of light, produced "a relief surface" of gelatin, and from this a metal "intaglio" is produced, by pressure. This is used for printing the diagram on paper, and large issues may be made, without materially impairing the relief thus afforded. Another method is to obtain on a surface of gelatin to be used in printing, a diagram of the specimen to be delineated. In Dr. Woodward's report, there are two diagrams given; one "a section of mammary cancer," and the

other "a section of cancer of the liver;" the first being produced by the process last described, and the latter by the process first described. Of the two processes, that by which the "section of cancer of the liver" is produced is much the better and more satisfactory. So much for the mechanical details.

In the remainder of the report, the pathology of cancer in its microscopic relations is interestingly examined. While the honest and earnest student reads these representations of the most recent views in regard to cancer with satisfaction, because they are the most recent efforts in behalf of the exposition of scientific truth, he is compelled, at the same time, to acknowledge or to feel profound dissatisfaction and disappointment, on account of the inexpressible obscurity, vagueness, antagonisms, and confusion which microscopy has now produced, in regard to the pathology and diagnosis of cancer. Indeed, the honest student of pathology is compelled to admit, at present, that all past pathology of cancer is subverted, and its absolute diagnosis an impossibility, while there is nothing reliable or satisfactory substituted, in regard to even its microscopic pathology, or its positive diagnosis. The old cancer cell; the mother cells; the cancer stroma; the cancer juice; have become interesting chiefly in history; in practice, they have ceased to be absolute, scientific, and satisfactory guides in diagnosis, prognosis, or treatment. Whether cancer is due to the old and familiar cancerous dyscrasia, of comparatively modern authors, with its typical cells proliferating and decaying; whether, according to Koester, it is the result of a proliferation of the endothelium of the lymphatics of the part; whether, as is taught by Thiersch, epithelial cancer is an outgrowth from the lower layers of the epidermis, and from the epithelium of the glandular apparatus; whether, according to Billroth, all cancers have this etiology; who will say? All is obscure; confusing; unreliable. To the zealous student, the elimination of error is almost as welcome as the approximation to truth; but in cancer pathology to-day, what error is certainly eliminated? What actual, positive approximation is there to truth?

What is the pathology of cancer to-day? In what respect are the microscopic relations absolute in their teaching? Is there a cancer cell? Are the histological elements termed cancer cells and cylinders, transformations of the physiological leucocyte? Surgery is fighting a great and mighty battle here; who can predict the character or result of the victory?

Dr. Woodward's method, honesty, sincerity, circumspection, skill, and research are worthy of the highest commendation.

THE QUESTION OF QUARANTINE. By ALFRED L. CARROLL, M. D., New York.

This is an interesting paper. It evinces honesty, care, and research. The conclusions of the author were sustained by the members of the Medical Library and Journal Association, before which Body the paper was read, and by the members of which it was discussed. All such conclusions, sustained by competent men, are interesting. What are their conclusions here; that all persons arriving from infected ports should be detained for a time corresponding with the stage of incubation of the infected disease, "dating from their last exposure to contagion," and including, in estimating the period of incubation, the duration of the voyage; that cholera is personally and by fomites communicable; that yellow fever is by fomites communicable, but not by person; that small-pox is by person communicable at all of its stages, also by fomites, vapors, and atmospheres; quarantine of observation should apply to living beings, inanimate substances being released after fumigation and disinfection; cholera can be easily quarantined; can even be confined strictly to the infected portion of a cholera vessel; the teaching that there are cholera atmospheric waves, and that cholera is produced locally by decaying grass, vegetable, or animal matter, is absurd and unworthy of sensible men. This paper is very interesting, and it is practically valuable. It gives a quietus to many visionary fanatics and foolish medical dreamers.

AN ADDRESS. BY H. CLAY DALLUM, Baltimore, Md.

This address was delivered at the commencement of the

Medical Department of the Washington University, and was published by order of the Faculty. It is a chaste and pleasing production.

THE MEDICAL INTELLIGENCER. By Messrs. J. & A. CHURCHILL, London.

This pamphlet contains a list and description of new English works and new editions. Those wishing a copy of it can obtain one by applying to Messrs. Lindsay & Blakiston, of Philadelphia.

CHEMICAL AND PHARMACEUTICAL.

'Diruit, ædificat, mutat."—HOR.

Extemporaneous Ink.—The following recipe will give black ink of good color and permanency: Take of tannic and gallic acids each 20 grains, dissolve in 2 fluid ounces of water; take also of crystalized sulphate of iron and of the dried sulphate *sulphat ferri exsiccati*), of each 15 grains, and dissolve these separately in a similar quantity of water (best distilled); mix the two solutions and add of mucilage (*mucilago, gummi arabic*) 2½ fluid drachms, of oil of cloves 2 drops. Although this ink is by no means cheap, it is preferable to every other, and is a very fine black, and quite permanent.—*Chem. News.*

Effect of Severe Cold upon Cast-iron.—H. Cock, the author, relates that the cast-iron framework of a 12-horse horizontal high pressure steam engine, employed at the printing works of MM. Renou & Maulde (Paris), after having been exposed for some hours to a temperature of 15 degrees during the night of December 8 to 9 last, suddenly snapped to pieces in three different places when the engine driver attempted to start the engine very cautiously and at a slow speed on the morning of December 9 last.—*Chem. News, from Les Mondes.*

Formula for Chloroform.—Take of chloroform 2 parts, oil of

sweet almonds 3 parts, syrup of acacia 40 parts. Mix and agitate thoroughly. Dose: Teaspoonful every 15 minutes.—*Revue de Therap. Medico-Chirur.*

Phenol Sodique. By E. Wildmann, M. D., D. D. S.—This preparation of carbolic acid is deservedly quite popular with the medical and dental professions. Its composition, so far as I have ascertained, has not been made public. The following formula is the result of numerous experiments, and will give an article that will compare favorably with the best French phenol sodique: Take of carbolic acid in crystal parts 188 grains, caustic soda 31 grains, pure water 4 fluid ounces. Mix.

The carbolic acid should be free from offensive odor, such as is prepared for medical purposes. When first mixed it is nearly colorless, but in time assumes a wine color; does not deposit any tarry residue, as is too often found in the commercial article. Carbolic acid has a feeble action as an acid, combining definitely with a very small portion of alkali. When the quantity of soda used was just sufficient to neutralize the carbolic acid, the compound did not appear to be as efficient as the one resulting from the above formula.—*Phil. Dental Times.*

Solidified Glycerine.—For toilet use, in winter weather, glycerine is one of the favorite applications. We have glycerine offered in the form of lotions, creams, and cerates, and we offer our readers the formula for an article that may be sold as solidified glycerine or glycerine jelly:

Transparent Soap, 1 oz.;
Water, 4 oz.;
Inodorous Glycerine, 24 oz.
(All by weight.)

Dissolve the soap in the water by heat, adding an equal weight of glycerine. When dissolved, add the remaining portion of glycerine, and sufficient water to make up the weight. When nearly cool, add any suitable perfume and pour in glass jars. It has a very pale amber color, is transparent, melts easily on the skin, and leaves no residue.—*B. in Exchange.*

Varying Effects of Poisons on Different Animals.—It is a well-known fact, that what is poison to one animal may be taken by another with entire impunity. In illustration of this proposition, we are informed that strychnine, so fatal to most animals, may be eaten by certain species of monkeys with perfect safety. In the case of an East India monkey, known as the Lungoor (*Presbytis entellus*), one grain was first concealed in a piece of cucumber, which was eaten by the animal with no apparent effect. Three grains were afterward given, and with the same result. To test the strychnine used, three grains were administered to a dog, which proved almost immediately fatal. Another Indian monkey, known as the pouch-cheek monkey, has been found to be more susceptible than the Lungoor, but not so much so as the dog.

It is also stated that pigeons can take opium in large quantities with no injurious consequence; goats, tobacco; and rabbits, belladonna, stramonium, and hyoscyamus.—*Ex.*

Inextinguishable Lamp.—A new light, which seems fitted to be of use in submarine construction of works, is in use in England. It is a cylinder of tin, with a top filled with a phosphite of calcium, prepared by the inventor, a Mr. Holmes. When the lamp is thrown into the sea or river, the water, entering the cylinder, decomposes the phosphite of calcium, phosphuretted hydrogen results; the latter escaping in great quantities ignites spontaneously, and burns with a brilliant light.—*Scientific American.*

A Test for Sugar.—Professor Seegen says ("Wiener Medizinische Presse, February 25, 1872) that very small quantities of sugar may be detected in saccharine urine, if the latter be first filtered through animal charcoal. This retains the uric acid, which reduces the oxide of copper, and certain other of the constituents of the urine, which interfere with the reäction in Trommer's test. The reäction will be obtained even more distinctly if, after the urine is filtered, the charcoal be washed and the wash-water be tested for sugar.—*Ex.*

Local Application of Camphor in Hospital Gangrene.—At the meeting of the French Academy, June 19, M. A. Netter offered a memoir upon this subject. He claimed to have obtained most excellent results. The powder is placed thickly on the sloughing wound, and should be followed by almost immediate amelioration in forty-eight or sixty hours.—*Gazette Medicale.*

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

On the Value of Quinine as a Prophylactic.—Dr. J. B. Hamilton states that during the wet season of 1866 he was in charge of a battery of 135 men, stationed at Jubbulpore, East Indies, and that quartered in the same barracks was a regiment of infantry, numbering 500 men. To the artillerists he served out 3 grs. each of quinine every other morning; the infantry got none.

The result was, he never had more than 4 per cent. sick at one time, whilst of the regiment 300 were on the sick and convalescent list from malarious disease at one time, so that the regiment was temporarily almost destroyed. Afterwards quinine was also served to the regiment, but the men being already saturated with malaria, its prophylactic powers were not so apparent. As the result of experiment he believes cinchonia to come first in prophylactic power, quinia next, and a long way after this quinoidine.—*Indian Medical Gazette.*

On the First Insensibility from Ether.—By John H. Packard, M. D., (one of the Surgeons to the Episcopal Hospital, Philadelphia.)—When the vapor of sulphuric ether is inhaled, there is, as is well known, an early stage of complete muscular relaxation, in most cases soon succeeded by an excitement, which in turn gives way to the complete unconsciousness which

is so desirable for protracted surgical procedure. It is not, however, so generally known that the muscular relaxation just mentioned is attended with entire anæsthesia. Advantage may be taken of this fact to perform many operations which, although intensely painful, occupy but a moment of time—such, for example, as the opening of whitlows or other abscesses. In this way much time is saved to the surgeon, while the patient is spared not only the suffering of the knife, but the vomiting, headache, and tedious return to consciousness which are so apt to follow the protracted administration of ether.

Let the patient lie on a sofa or reclining chair, and take in his own hand a folded handkerchief or towel, with about f ℥ ss of ether poured over it. He should be instructed to breathe out strongly, and then to apply the inhaler at once firmly to his face, and to hold it there. He may be told also to raise up his other hand, and his attention repeatedly directed to keeping it up. As soon as the hands fall, the surgeon, having everything previously in perfect readiness, promptly accomplishes his object, and the patient is at once allowed to "come to."—*Philadelphia Med. Times.*

Steam-engines for Household Purposes.—The "Boston Journal of Chemistry" says: "Some months ago we referred to the fact that steam-engines of about one "Biddy" power had been made for domestic use in France, and that they gave good satisfaction wherever they had been tested. More recently we have met with the following description of one of these engines in an English paper:

"'The apparatus consists of a small vertical boiler, heated by several Bunsen burners, the supply of gas to these burners being governed by a simple automatic arrangement dependent for its action upon the pressure of the steam. Thus, as this pressure rises, the supply of gas is diminished, the adjustment being such that practically the steam is maintained constantly at any pressure to which the apparatus is set. The engine, which is of very simple construction, is carried by the boiler, and the latter is of such capacity as to contain sufficient water

for a day's supply. In using the apparatus, all that is necessary is to charge the boiler in the morning and light the gas, and the engine will run the whole day without further attention.'"

Soothing Syrup.—Dr. W. F. McNutt, of San Francisco, Cal., ("Pacific Med. and Surg. Journal), alludes to the baneful effects and the enormous consumption of "Mrs. Winslow's Soothing Syrup" in this country. About one hundred thousand two-ounce bottles of it are sold annually in San Francisco, containing about one hundred and eighty thousand grains of morphia, which are given every year to the babies of California. It is fair to presume that there is seventy-five times that amount used in the United States, which would make 15,000,000 ounces of syrup, or about 14,000,000 grains of morphia. He inquires: "How much of the physical disease, of the drunkenness, of the degradation, and of the vice, and how many of the weakened intellects, are due to use of soothing syrup in infancy?" (Give it up!—Ed.)

Gastro-Hysterotomy.—This operation has been very rarely performed in the United States, so much so that in many of the thirty-seven commonwealths not one can be found. New York city, with its transfluvial neighbors, and Philadelphia, collectively containing more than 2,000,000 of inhabitants, present but five cases of this operation, three of which belong to Philadelphia. Of these five, two women and one child perished. Perhaps the oldest operation of gastro-hysterotomy in North America was that which was performed in the Island of Jamaica, in 1769, upon herself, by a slave woman, with success. Dr. Robert P. Harris, of Philadelphia, ("Amer. Journ. Obstet. rics"), finds that 60 per cent. of the women recovered, or fifteen out of twenty-five. The *whole mortality* among the children, owing to the gravity of the delayed cases, amounted to fifty-six per cent., or fourteen out of twenty-five.

Treatment of Tetanus Among the Chinese.—This mode of treating tetanus has been seen by English physicians in China and India to be successful. The patient smokes in a pipe a

mixture of from twenty to twenty-five *centigrammes* of crude opium, and tea, or rose leaves, which are worked up with a small quantity of molasses. When smoking he must inspire as deeply as possible, and continue this operation until a narcotic influence is noticed. This, then, continues, as a rule, three to four hours. The smoking is repeated as soon as the tetanic symptoms reäppear. In the meantime as much nourishment as possible is given. In using opium thus, it must be remembered that its narcotic effect is somewhat neutralized by tobacco.—*Medicale Ital. Lomb.*

Position of the Epiglottis as a Sign of Probable Longevity.—Mr. Duncan Gibb has volunteered the singular observation that the epiglottis occupies a vertical position in persons who have attained the age of seventy years, and that depression of this cartilage can be taken as a sign that the person will not attain advanced age. He claims to have examined 5,000 persons in apparent good health, and in all those who were between seventy and ninety-five years the epiglottis was vertical.—*Ex.*

MEDICAL NEWS.

'Nulla dies sine linea."

Dr. Warren Stone has resigned the chair of Surgery in the Medical Department of the University of Louisiana; Dr. T. G. Richardson has been transferred from the chair of Anatomy to that of Surgery in this College, and Dr. Samuel Logan, lately of the New Orleans School of Medicine, has been elected to fill the chair of Anatomy vacated by Dr. Richardson.———The Alumni of the Medical College of Alabama have formed an Association; D. E. Smith, M. D., President and Rhett Goode, M. D., Secretary and Treasurer.———The honorary membership of the Royal Society of Sciences of Brussels has been conferred on Sir James Paget and Sir William Ferguson. Dr. Tilbury Fox

has been made a member of the Leprosy Committee of the Royal College of Physicians.———A subscription is on foot among the Profession in Italy to strike a gold medal to be presented to Virchow.—*Ex.*———Dr. Ramberger has been elected to the chair of Medicine in the University of Vienna, to succeed the late Professor Oppolzer.—*Ex.*———Dr. Tyson has retired from the position of assistant editor of the "Philadelphia Medical Times."—*Ex.*———Dr. Thomas W. Evans, of Paris (an American), has been promoted to the rank of Commander in the Legion of Honor.—*Ex.*———Prof. James M. Holloway will occupy the chairs of Clinical Surgery and Physiology in the Louisville Medical College.———The Health Officer of Baltimore, Md., reports forty-five cases of cerebro-spinal meningitis from March 1 to July 15, 1872.———Cundurango sells now at $3 per pound.———Xylol, the vaunted specific for variola, proves to be like Mr. Boutwell's devices for advancing greenbacks to a par value—worthless.———The recently-elected President of the American Medical Association is having many honors heaped upon him. One has only to secure his election to this position to become notorious. Foreign critics ridicule the idea of this Association being a scientific Body. Its chief characteristics seem in recent years to be to discuss ethics; woman's-rights; negro-rights; banquets, public and private; to excuse all advertised as chairmen of committees; to be perplexed over an appropriate medal for membership (difficult of attainment); to be refreshingly ignorant of the requisites for establishing a Journal; and to publish one volume annually of very weak and sophomorical papers termed formally "transactions."———Medical Colleges are being established in Japan; Government is to dry-nurse them, a sure indication of their early failure. Any State, country, or city undertaking to dry-nurse a Medical College is sure to destroy it, by electing a lot of incompetents that no private Institution would tolerate for an instant.———Dentists now prevent the annoyance of salivary accumulation during operations, by using an instrument for compressing the duct of steno.———The result of recent examina-

tions is that no one can (as claimed by Lostorfer) diagnosticate syphilis by microscopic examination of the blood corpuscles. ———The aspirateur is now used for tapping abscesses, dropsical sacs and joints; for diagnosticating tumors and enlargements; for venæsection; for bleeding by ovariotomy; for reducing hernias, and for relieving a dangerously distended bladder in impermeable stricture.———Medical Journals are abandoning the disgusting habit of publishing testimonial letters. ———Dr. James C. Palmer has been confirmed as Chief of the Medical Department of the Navy; a good officer is much needed in this position.———Dr. William Stokes, of Dublin, has been created a Baronet.———The "Leavensworth Medical Herald is extinct."———During one week, the death record in New York was 1,569.

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

Sunstroke.—Dr. Horatio C. Wood's paper on sunstroke is published (in the form of an abstract) in this Journal, not because of its conclusive demonstration of the pathology claimed, but because it has attracted deserved attention; has been awarded the Boylston Prize; and lastly, because very many desire to read the chief views advocated by the author. While it is probable, and while long experience teaches that, with high atmospheric temperature, we have frequently sunstroke, it must be admitted that Dr. W.'s experiments do not demonstrate, scientifically, the fact that, because a high temperature applied to the head of animals is usually fatal to them, a high temperature applied to the whole body is the true cause of insolation in man. It may be objected to his claims, that man will endure a very much higher temperature with impunity than either of the animals (the cat and the rabbit) selected by him. Man bears, without danger temperatures very much higher than that of "hot water."

Fordyce, Tillet, Blogden, and others, endured with impunity a heat of 266°; while Chantrey bore a temperature of 350°, and Chabert endured a heat of 600° F. It does not follow, then, that because a cat or a rabbit with a bonnet heated with "hot water," (the temperature not stated), suffers and dies with the symptoms of insolation, that the human being (bearing the temperatures stated) would be at all or similarly affected. The inhabitants of the tropics bear, without danger and for many months, a temperature of from 110° to 130° F. It would appear, beyond question, that some other factor than simple atmospheric heat produces the symptoms of insolation, for it has been repeatedly proved that very high heat alone does not produce such results. Again, the cerebral temperature of the cats and rabbits being, after death, 113° F., proves nothing. Immediately after death from lightning, after death from cholera, or violence, the bodily temperature has been found to be 113° F. High post-mortem temperature proves and indicates nothing; certainly not that the blood before death was of an elevated temperature; or of a temperature much above the normal standard. The blood in cholera gives a very high temperature immediately after death; the muscles of the thigh even giving a temperature of 113°; yet no one pretends that exalted blood temperature here is causative in any way of death. Dr. Wood's experiments before the death of his animals and his results after death prove nothing whatever scientifically. While the paper is doubtless a good one, it is strange that any pathological claims should be based by any one upon it. His pathology is imperfect and wholly unproved. His treatment by ice or cold water applied to the head and whole person is very old and long used; even by heathen and untutored tribes. The essay has attracted attention, and may induce careful study and accurate experiments.

EDITORIAL BREVITIES.

Dr. E. L. Drake, of Whitesboro', Texas, in writing of pneumonia, shows that a latent philanthropic and poetic genius can not be suppressed; he says, of a solution of nitric acid and

water, that they who use it, "along the cool sequestered way of life, pursue the even-tenor of their way." All have sighed for peace in this world; President Grant even proposes that we should, in a chronic way, all "have peace," but this Texas doctor has discovered how it is to be obtained: "℞.—Acidi Nitrici m. xvj., Aquæ f ℥ viij. M. S. One tablespoonful every hour." Drink this and be happy.———Dr. Edward Warren desires all to suspend judgment in regard to the Wharton trial, until he can reply in this Journal.———Dr. W. W. Dawson, President of the Ohio State Medical Society, says, in his annual address, "if our system of medical education be so defective, why this great excellence in the men thus educated?" He and his friends "pause for a reply." This can be given by asking another question. If ploughing corn (as the Spaniards do) with a stump, shelling it by the treading of animals, grinding it with hand-stones, and baking it in the ashes, gives excellent bread, why have plows, shellers, mills, and bakers?———The Medical Profession will be glad to learn of the recovery of Dr. H. Storer, of Boston.———Poor Powell, of the "Georgia Companion," admits that he was expelled from his Faculty, and that they stated this was due to his charlatanism and violation of ethics, but he says that he was reïnstated (with an apology from the Faculty) and made honorable again. One of the Faculty states that the records show why and when Powell was expelled, but there is no record of his reïnstatement, or of the Faculty action publicly claimed. With such facts, this unfortunate individual has the folly to state, that the ridicule of his platitudes on "the ethics," and on moral "exhaltation" (as he spells the word) is due to jealousy. When the Fairy, who makes us see ourselves as others see us, reaches Atlanta, she will be found chronically encamped in front of Dr. Powell's headquarters, at the "Companion" office.———Wanted; ten copies of this Journal for May, 1872; five of March, 1872; and two of August, 1867; for each of these numbers, fifty cents will be paid.

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ART. I.—COMPOUND FRACTURES, WITH SOME REMARKS ON INTERMEDIATE AMPUTATION. [Read before the Southwest Kentucky Medical Society.] By JOSEPH W. THOMPSON, M. D., Paducah, Ky.

CASE I.—Henry S., of Ballard county, Ky., aged about forty-three, on the 4th of November, 1870, fell from the top of a corn-crib, one of the crib logs falling on his leg about midway between knee and ankle joints, producing compound fracture of both bones, with extensive injury of soft tissues. A fragment of fibula about four inches long seemed to be detached and loose. The attending physicians attempted to remove this fragment by drawing it out, but when one-third the length was withdrawn the resistance was such that they discontinued their efforts, and replaced it as near *in situ* as possible.

On the sixth day after the accident I was called in consultation with the attending physicians—Drs. Smith and Lea, of Blanchville. I was sent for more especially to amputate the leg, but at that time it was in the intermediate or inflammatory stage, and I opposed amputation in that condition, stating that it was almost certain to result fatally. I took this position, although gangrene was somewhat threatened, being satisfied from my experience in the late war that it would be better to

take the chances of his reaching the condition of a secondary amputation, than to operate in the inflammatory stage. Dr. Smith said he rather favored amputation, but not claiming to have much experience in such cases, would consent to postpone the operation. Dr. Lea also consented to this course. We recommended to envelop the leg in a warm poultice and apply solution acid carbolic, give tinct. ferri., chlo. quinine, whiskey and nourishment, and await the suppurative stage; if we then thought proper, make a secondary amputation. Drs. Smith and Lea said if a secondary amputation was determined on, they would telegraph me that I might come and perform it. I have since been informed that when that time arrived the patient decided to take chances without amputation. After a tedious confinement of more than three months he recovered, with a moderately useful limb with about three inches shortening.

I am satisfied that he took desperate chances in not having a secondary amputation performed. I can confidently assert that, ordinarily, such cases will result fatally, and that his recovery without operative procedure was exceptional, and should not induce us to be too conservative in the treatment of similar cases. Dr. Smith writes me that "he regards the union of the fragments of the fibula as the most remarkable feature of the case." I think that an interesting point, and I also think that his recovery under the circumstances from a condition so critical makes the case one of interest. He was a strong, robust man, in the prime of life, having a first-class constitution, and it is to these facts that I attribute his recovery more than to anything else. The more I see of grave surgical cases, the more I am impressed with the vis medicatrix naturæ.

CASE II.—Warren G., colored, aged about forty, a fireman, was injured by locomotive being thrown from the track, producing a compound fracture of tibia and fibula in lower third of left leg. I saw him some four or five hours after the accident. He had then but partially recovered from the shock. The accident occurred about twelve miles from Paducah, Ky.,

and he was brought here by train. The fracture was held in position with sand-bags (seldom using splints in fractures of lower extremities), and carbolic acid solution applied to wound. There was not an unpleasant symptom until the fourth morning, at which time I found swelling and œdema to exist from foot to hip-joint, with decided indication of gangrene. During the day I invited Drs. Maxwell, Richardson, and Brooks, to see him. I stated to these gentlemen that, as the leg was in the intermediate or inflammatory stage, it was my opinion that the chances had better be taken on its reaching the condition for secondary amputation. They all concurred with this view of the case. Directions were given that the leg be enveloped in a flaxseed poultice, and that the carbolic acid solution be continued. Tincture ferri., chlo. quinine, and whiskey were ordered; also, good nourishing food. The gangrene continued to increase until the fifth day from its first appearance, at which time suppuration was partially established, and of an unhealthy character. I now entertained the idea of giving him the slender chances of amputation—Drs. Becher, Saunders, and Richardson acquiescing, and Dr. Maxwell taking a positive position in favor of it; stating that even with the limb removed he regarded his recovery entirely doubtful. We all agreed, however, that unless the leg was amputated he would be certain to die.

That night, at 10 o'clock, I amputated at the junction of middle and lower third of thigh. He bore the operation well, considering his enfeebled condition, and the next morning had partially rallied under the use of whiskey and milk. The stump was left open, it being gangrenous. I applied strong carbolic acid solution and flaxseed poultice, occasionally touching the gangrenous surface with pure nitric acid. Under this local treatment and the use of tinct. ferri., chlo. quinine, whiskey and good nourishing diet, the gangrene gradually yielded, the stump becoming almost healthy, and his condition much improved. On the fifth morning after amputation tetanus supervened, and he died in about sixteen hours. We felt quite confident that he would recover a few hours prior to the tetanic

symptoms, and thought that we were making a successful fight against seemingly desperate conditions, but to our sad disappointment, tetanus produced a fatal result, as before stated.

Most writers on injuries of this nature recommend the intermediate amputation under extreme circumstances, when the wound becomes very unhealthy, and when traumatic gangrene supervenes.

At the beginning of the late war many of our then most eminent surgeons did not seem to appreciate the danger attending intermediate amputations, and performed many of that class with almost universally fatal results. At the battle of Shiloh the number of wounded was very great with both armies. We, the Confederates, on the second day, were forced by overpowering numbers to yield the field, and the largest portion of our wounded was transferred to Corinth, Miss., some miles in the rear of the battle-field. On their arrival at Corinth the wounds were in an inflammatory stage. To my knowledge a considerable number of intermediate amputations were performed, and with the usually fatal results. Such was my observation after the first battle that I witnessed, which was one of the largest of the war, and the impression made on my mind then against intermediate amputation was further strengthened by an experience which continued until the termination of the war. Such, also, was the experience of many of my medical associates in the army.

Dr. D. A Maxwell, our retiring president, says that he witnessed intermediate amputations many times in the hospital departments of the Army of Tennessee, and the result was universally fatal.

McLeod, in his "Notes on the Surgery of the Crimean War," states that amputation was performed many times in the intermediate period with universally fatal results. Such was my experience, and that of all medical officers of the Confederate Army with whom I discussed this point.

I have not amputated in the intermediate stage but once since the war; that was in the case of a negro boy in which the con-

tents of a shot-gun, loaded with large shot, had been discharged into the knee-joint when in close contact with it, opening that joint and comminuting the articular ends of the bones. When first called to see him the wound was in the intermediate stage, and the indications were that gangrene was about to set in, the blood becoming poisoned, and that he must soon sink. After an extended consultation we decided to give him the very slender chances of an amputation. I amputated about the junction of the middle and lower third of the thigh. He failed to rally from the shock, and died in about three hours.

When the time for primary amputation, which is established as decidedly the most favorable, has passed, I think we had better trust the dangers that may arise in the intermediate condition, be they ever so grave, and await to take the chances of secondary amputation. I am satisfied that if accurate statistics on this point could be had, they would show a better success in taking the chances of the patient passing through the perils of the intermediate period, and then making a secondary operation.

In case No. 2, of this report, I think it would have been better to have made a primary amputation, but the injury appeared to be of such a character that we, Dr. Brooks and myself, thought the leg could be saved without jeopardizing life. The patient, also, was exceedingly anxious to save the leg. Gangrene ensued on the morning of the fifth day, and Drs. Maxwell, Brooks, and myself determined to take the chances of his reaching the condition for a secondary amputation.

It is true, that when the secondary stage arrived the suppuration was of an unhealthy character, but I then made a secondary amputation of the thigh, and the patient bid fair to recover, and would no doubt have done so but for the extremely exceptional complication from amputation, tetanus, which, as has been stated, produced the fatal result. But for the occurrence of tetanus, I am satisfied he would have recovered. The gangrene subsiding and the wound becoming healthy, argues so much in favor of taking the chances of cases pass-

ing through the intermediate period on making a secondary amputation. In the surgical history at my command I am unable to find the least encouragement to attempt amputation in the intermediate period.

ART. II.—PATHOLOGY AND TREATMENT OF MALARIAL DISEASES. By D. W. BRODNAX, M. D., Cameron, Milan County, Texas.

[Ex Principiis Experientia.]

Having in an article published in the July number of this Journal asserted the theory that the sympathetic nervous system, the regulator of the nutrition of every part of the body, and of the functions of all its organs, is that on which the first impression of malaria is made, which, either by depressing it below its normal energy, or exciting it to inordinate activity, disturbs its equilibrium, causing it to produce in the organs under its control corresponding conditions, I now proceed to show how a great many diseases, usually considered distinct, may be associated in one grand group, depending upon the same primary cause, which is active during the continuance of each, which action must be counteracted before relief can be obtained; and that the therapeutics of each varies from that of the other only in minor details. I do not think it material to determine how that impression is first made, whether upon "the peripheral extremities of the vaso-motor nerve," as suggested by my friend, Dr. T. C. Osborn, of Alabama, ("New Orleans Medical Journal," October, 1870), or by absorption through the lungs, or through the stomach, or in all these ways; nor what malaria is (except with a view to prophylactic hygiene, which does not come within the scope of this article), the effects most concern us; and the extent of those effects shows that to relieve them has for ages been the problem that has engaged the greatest minds of our Profession. Happy will I be if my humble efforts will in any degree contribute to the solution of this problem, to the benefit of my fellow-man.

I presume that all will admit the fundamental principle that the organic nervous system controls and regulates the nutrition of the body, and the functions of all the organs of the animal economy, causing each organ to perform its individual and appropriate duty, and harmonizing the whole in concordant action. This being admitted, it follows of course that if this harmony be interrupted, either by passive or overactive agency, there will occur disturbance in the economy—an abnormal condition—a departure from health. If each organ were, under all circumstances and conditions, to maintain its relative vigor, and the impression of the disturbing cause upon the great regulator were uniform in its effects and coëxtensive with its ramifications, then the primary disturbing cause would produce a uniform concurrent effect upon all the organs simultaneously. But inasmuch as those organs, from some cause, become relatively weak, inasmuch as the impression upon the regulator may be limited and circumscribed by its ganglia, the ganglion first receiving the force of the impression, whether transmitted from its distal extremities or directly applied, becoming a focus of action, the weaker organ in the one case, or that immediately under the influence of this affected ganglion in the other, will be that most prominently affected. Furthermore, inasmuch as more ganglia than one may be simultaneously impressed, or may become so by successive transmission of impression, divers organs may be either simultaneously or successively deranged, producing a complication of disease. I do not mean to assert that malaria is the only agent that can produce a disturbing influence upon the sympathetic nerve; nor is it at all necessary to the successful maintenance of my theory. Poisons, especially those of a narcotic nature, the poison of cholera and other specific diseases, produce their effects upon this nerve. But by whatever disturbance the agency be produced, the effect will be manifested upon some organ exposed to its influence.

In the application of these principles to diseases in detail, I will first consider the effect of the disturbed condition of the organic nerve on the heart, the distributing centre of nutrition.

The direct effects may be pericarditis, endocarditis, carditis, valvular disease, hypertrophy, atrophy, dilatation, etc.; more remotely, arteritis, aneurism, phlebitis, embolism, thrombosis, varicose veins, phlegmasia dolens, etc. I do not mean to assert that the first effect of the disturbing agent is always felt by the heart; for, as I have before said, it will be felt by that organ in most immediate relation with the ganglion first affected, most generally some other organ than the heart, and the heart, and consequently the circulation, may not feel nor manifest its influence till that organ shall have transmitted to it through connecting nervous or circulatory media, intelligence of its condition. Such transmission of the ailment of one organ to another, if through nerves, is called "sympathy," either "contiguous" or "continuous," according as the organs are more or less remote, such sympathy being nothing more nor less than a coïncident derangement of each organ produced by the antecedent derangement of the regulating organ—to wit, the sympathetic nerve, and the interruption of the equilibrium of the circle. If such transmission be through the circulating medium, the effect upon the organ secondarily affected is mechanical or chemical. How far this character of affections comes within the purview of my hypothesis, I will notice by-and-by. The heart receiving its nutrition and its power of action from the sympathetic nerve, is either depressed in its action or inordinately excited by corresponding conditions of that nerve. In the one case the blood is sent to the lungs too slowly—in too small quantity—the capillary vesicles of these organs are not sufficiently distended to excite them to normal contraction; consequently there results a stasis of the blood, in congestion, which is called "passive," in some portion of the organs. On the other hand, if inordinate excitement be produced, the blood is sent to the lungs too rapidly, in too great quantity; their capillary vesicles are too greatly distended to be able to contract upon the volume and send it along in its course, producing another form of congestion called "active." This distention may be so great that the blood corpuscles are forced through them,

and becoming mingled with secretions of the bronchial mucous membrane, produce bloody sputa. In either case, the æration of the blood is not properly effected, and its nutritive qualities are of course impaired. Consequently, no part of the body that receives nutrition from the blood (which is tantamount to saying the whole body) is properly nourished, and there must of necessity result more or less derangement of the whole system, an impairment of vital force, a depression of animal power. In either condition of the lungs we have the disease called pneumonia.

It will thus be seen that pneumonia is but a congestion of the lungs, and that this congestion has been produced by *in* or *en*-nervation acting in the case supposed proximately upon the heart, remotely upon the lungs. But, if the order be reversed, and the first impression of the disturbance has been received by the lungs, which is more generally the case, a portion of blood greater or less in proportion to the extent of lung involved, is retained in the capillary meshes, thrown out of the circulation, and all the rest of the system suffers the consequences of imperfect æration and nutrition. The heart not receiving the accustomed volume of blood from the lung, is thrown into disorder, and making the attempt to support the system with diminished means, hastens its action in order to send around and distribute the smaller supply of nutritive fluid in a shorter time; as explained in my first article. Some organ, we will say the liver, may happen to be in an irritable condition, either from having received a coïncident impression of innervation with the lung, or other cause, is not satisfied with its short allowance of nutrition, and refuses to eliminate the elements of bile from the blood; or, the column of blood restrained in its flow by the stasis existing in the lungs, is thrown back upon it, crowding and distending its capillaries beyond their capacity, and overwhelming it with a quantity of material that it can neither work up nor transmit. Thus we have a congestion of the liver concurrent with that of the lungs, which may result in hepatitis, jaundice, or any other

affection of the liver. The same may be said of any other organ, and of all of them simultaneously, in which case the congestion will be general, and may result in various diseases of those organs. Suppose the kidneys to be the organs affected, and suppose their capillaries, as in the case of the lungs, become so distended as to permit the red corpuscles of the blood to pass, we have then hæmaturia more or less distinct, according to the extent of the congestion. If, now, the kidneys and liver be simultaneously thus affected, we have "black jaundice." Or, if the mucous membrane of the stomach, we may have nausea, vomiting, hæmatemesis, gastritis, sick headache, and, it may be, black vomit; or, of the bowels, diarrhœa, dysentery, enteritis, and both stomach and bowels, cholera-morbus. I will not enter into a lengthened argument of the vexed question, what is yellow fever, which naturally rises here, but will merely give it as my opinion that it is a condition of congestion more or less extensive as more or fewer organs may be involved in a given case, this congestion being occasioned by imperfect innervation, as any other congestion, but the energy of the controlling nervous system, and the equilibrium of the action having been impaired by a specific cause. I said above that the disturbing cause may not always be malaria. This may be one of the exceptional cases. But if so, the equilibrium being distended, restoration to health cannot be accomplished till it is restored and the functions of the nerve resumed. In support of this, I can adduce the treatment of six cases, all I ever saw, four of which were cured by the same treatment presently to be recommended for pneumonia, with the addition of hot mustard pediluvia, and cold-water affusions to the head, and carbolic acid to restrain vomiting.

When yellow fever was raging in a neighboring village in 1867, six persons from my neighborhood having imprudently ventured into town during the daytime, supposing there was no danger, were infected and soon stricken down. There was in each case great congestion of the lungs, the liver and spleen, and in one hæmaturia. Of the two that died, one refused all

remedial means, saying that he was "bound to die." The other, an old man, whose wife was taken a few days before him, and was then convalescent, but needed his constant attentions to complete her recovery (no nurse being obtainable on account of the panic occasioned by its presence in the neighborhood) refused to lie up or to cease his attentions to his wife till he could no longer stand, and literally sacrificed his life to save his wife's. The case in which hæmaturia occurred died of relapse, in which I did not see him.

Let us now trace the effect of this disturbed equilibrium a little further into the animal economy. The brain receiving a diminished supply of pabulum in the one case, or an excessive in the other, is either anæmic, producing coma, more or less profound, from want of nerve power or hyperæmic, producing delirium, or coma from pressure. In either case there may be convulsions. The result of this derangement may be epilepsy, various hysterical phenomena, diplopia, ambliopia, and other alterations of vision and hearing, cerebritis, softening of the brain, apoplexy, paralysis, etc. The cerebral meninges becoming congested, meningitis, serous extravasation, etc., may be produced; and this extended to the spinal marrow may produce cerebro-spinal meningitis, and various degrees of spinal irritation. This same condition of nervous influence extended to its ramifications, may produce turgescence of the arterial ramifications of tendons, fasciæ, bursæ-mucosæ, etc., producing rheumatism, gout, synovitis, etc., and to mucous membranes producing ophthalmia, otitis, coryza, ozœna, laryngitis, gastritis, colitis, dysentery, diarrhœa, constipation, etc., and various affections of the glands of the abdomen and elsewhere. The column of blood being arrested by a congested liver or spleen, may produce dropsy (which may be produced by a similar condition of other organs), and being thrown back upon the uterus and ovaries, may produce abnormal conditions of those organs; engorgement and consequent ulceration, catarrh, dysmenorrhœa, menorrhagia, amenorrhœa, etc. The spleen being impaired in its power to produce the red corpuscles of blood, anæmia, ca-

chexia, chlorosis, leukæmia, etc., etc., etc.; and the blood, by the failure of any or all the organs involved to eliminate from it the various ingredients assigned in special duty to each, becomes cachæmic.* This in turn vitiates the secretions of all the organs to which it is sent, and thus they act and reäct upon each other *ad finem*, unless this state of things be remedied by proper therapeutics. The cerebro-spinal system receiving its nutrition from the sympathetic, becomes deranged, producing neuralgia of various nerves, angina pectoris, gastralgia, sciatica, asthma, etc.; erysipelas, carbuncles, felons, boils, and various diseases of the skin, and subcutaneous cellular membrane may be produced by derangement in the part immediately affected, interfering with osmotic or other operations. It would be tedious to the writer, and doubtless wearisome to the reader, to trace out all the various phenomena that may be occasioned by derangement of nervous equilibrium. There is scarcely a disease, if indeed there be any, that may not be occasioned directly or indirectly by this cause. This being the case, it is manifest that the cause must be removed before the effects can be successfully combated; that this controlling power must be restored to its equable action before the results of its derangement can be rectified.

Let us now trace the agency of this nervous system in producing remote effects, such as gout, synovitis, chilblains, skin disease, etc., etc. In what are called osmosis and catalysis we have modes by which nutritive materials are utilized. These processes tend continually to work transformations in organic bodies, and are instrumental in conveying into the tissues the agents, and conveying out of them the products of chemical change, thus aiding in carrying on other redistributions. The vascular system distributes nutritive fluids through ramified channels throughout the body. Yet the absorption of these

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VIDE—A very able article in the "New Orleans Medical Journal," October, 1870, by Dr. T. C. Osborn, of Alabama, President of the State Medical Association, whose views as to the agency of this nervous system I am proud to see correspond almost exactly with mine.

fluids into the tissues depends on the escape of the fluids which the tissues already contain. If the distribution of these fluids to any part, or their absorption into and discharge from tissues, be prevented by any cause (want of nerve power), mechanical injuries, cold, or the like, that interrupt the channels of distribution, osmotic and catalytic actions in that part will be interrupted, and the part will become disorganized, unless the nerve power be restored, or the channels reöpened. As the tissues cannot absorb more fluids till those they already contain shall have escaped, and as this escape may be facilitated by evaporation, and as evaporation mainly depends on heat, heat may be an important agent of molecular reärrangement and of redistribution. Again, as light is known to modify many inorganic compounds, it is highly probable that it may produce important effects upon substances so complex and unstable as those which make up organic bodies. The darkening of the skin occasioned by exposure to the sun's rays, the erythematous affection produced by its heat and light, the blanching that follows privation of light, the pain it inflicts on an inflamed eye, all go to show that it is capable of producing an important influence over organic changes. But the agency of chief importance amongst those that work changes in organic matter is chemical affinity. In the two fundamental functions, nutrition and respiration, we have the means by which the active molecular reärrangement effected by this agency are maintained. Thus the process of animal nutrition consists of the absorption partly of those complex substances that are capable of being chemically altered, and partly of simpler substances that are capable of altering them. These chemical changes are mainly effected by oxygen (whether as the immediate cause of molecular changes or by carrying away the products of decomposition already formed), and this oxygen is absorbed from the air through the lungs, or from water through the stomach. Now, whatever may prevent the access of this agent, or interfere with the accomplishment of those delicate operations, osmosis and catalysis, within the animal economy, necessary for the perfect integrity of its organ-

ization, will occasion derangement of the system somewhere; the part involved will fail to receive proper nutrition, or be unable to utilize the materials sent to it, and there will occur an abnormal condition—a disease of some sort or other. Impaired innervation may enable accidental causes, mechanical or other, to determine the location of the derangement, but when determined, it will in turn disturb the balance of nervous equilibrium and throw the nervous system into more or less disorder, which, if so serious as to be beyond the powers of the *vis medicatrix naturæ* to remedy, must be restored by therapeutical interference. This, I think, explains the occurrence of the various exanthemata and other skin diseases not dependent on specific causes. Indeed, those of a specific nature, when once established by their peculiar cause, produce by reflex action (if indeed the first impression be not central) the same condition of the regulating nervous system that is occasioned by malaria. Preëminently is this the case in some of the graver diseases of this class, as small-pox, scarlatina, and measles, which are not usually ranked amongst skin diseases, because this reäction upon the nervous system is so powerful as to occasion such constitutional disturbance, that is to say, disturbance of the functional actions of the organs, that they are called *par eminence* "constitutional diseases." This *functional* disturbance of organs is in many cases so severe and so protracted that *organic* lesions are established.

The interruption of these processes may produce such effects on the kidneys as to cause them to elaborate other products than those produced by their normal condition; products that, not being soluble and capable of excretion, assume the various forms of calculi. It may work such changes in the lungs, the mesenteric and other glands, as are developed into tuberculosis, phthisis, tabes mesenterica, and scrofula; or in the mucous membrane of the larynx as to produce croup and diphtheria. Hydrophobia, though produced by a specific cause, and tetanus, owe their horrors in a preëminent degree to a disturbance of nervous equilibrium; and so does syphilis so far as this equili-

brium is necessary to the regulation of the nutrition of the system. In all of these derangements there is more or less disturbance of nervous equilibrium; and whilst I grant that in many of them it is so slight as to admit of their being rectified without the use of quinine, even by the unaided efforts of nature, and that in progress of time the nervous system may become so accustomed to their presence as to manifest no consciousness of their influence as to "accept the situation"—yea, even require their presence "to enable it to preserve the peace and order of the corporation, as we see in the habitual use of opium, alcohol, arsenic, tobacco," etc.; yet, when severe, I contend that they can be more speedily and readily cured if quinine be used in conjunction with other appropriate remedies. Quinine is not an "anti-periodic" nor an "antidote to malaria, but an excitant or sedative, according to dose, of the sympathetic nervous system, and, I repeat, should be given in all cases where that system is seriously deranged.

I will now proceed to the treatment of some of the most frequent and formidable diseases. And first of pneumonia, or congestion of the lungs, which, at least in the climate in which I have practiced for the most part of my life, is much the most common and most fatal phenomenon met with in malarial fevers. In every case of chills, however mild, there is more or less congestion in some portion of the lungs, usually the lower lobe of one or both, during the paroxysm. When reäction is complete, and the nerve during the intermission recovers sufficient energy, this congestion passes off without establishing any organic derangement. When, however, the nerve has received so forcible an impression of malaria that it cannot recover sufficient energy, it fails to contribute to the lungs the power to contract its capillary vesicles sufficiently to expel the accumulated blood, that blood remains stationary, blocking up the vesicles, and is for the time being thrown out of the circulation. Moreover, it arrests the flow of other currents of blood, damming them up behind it, thus involving more and more portions of lung in succession, till finally the whole becomes completely

solidified. Now, when there remains over from one paroxysm to another any extent of congestion that is not removed during the interval, or when the nervous system has been so completely overwhelmed by the first onslaught that there is not sufficient reäction to produce a second paroxysm, the resulting condition of the lung is called pneumonia. There are all the signs, physical and rational, of pneumonia—the various degrees of crepitation to complete aphonia—the glairy, viscid sputa, in many cases mingled with blood in various proportions, from the brick-dust color to that of clear blood, and all the other symptoms, too tedious to mention, to be found in the books. The pulse is variably affected. Usually it is increased in frequency, but always diminished in volume according to the quantity of blood detained in the lungs and thrown out of the circulation. But I have frequently seen it very much reduced in frequency as well as volume, even down to 40, which is the more alarming, because indicating that the oppression is so great that the nerve has not the ability to supply to the heart the power to hurry along its diminished resources with accelerated speed in its attempt to meet the demands of the system. The strength of the system is, consequently, more speedily exhausted. When, twenty-eight years ago, I ventured upon the practice I am about to recommend, founded upon the theory of pathology set forth more fully in my first article, there were no physicians who would (and even at this day a large and imposing majority are unwilling to) give quinine during this increased *frequency* of pulse, alleging that "there is too much fever," and those who use it, give no other reason for it than that "experience has proved it to be beneficial." They first attempt to "reduce the pulse" with purgatives (sometimes bleeding) calomel, antimony, veratrum, and what not, and "break the fever," and if they succeed in their attempts, and are not thwarted by the vigorous resistance of Nature, the patient will be "reduced" to the grave, and "broken" of his hold on life. If Nature succeed in resisting his efforts, she will be long in recovering from the injury. We must husband the resources and sedulously solicit

the coöperation of Nature; and if we take the patient out of the hands of Nature, we are apt to consign him to the undertaker—"*Naturæ principiis parere debemus.*" The fact is, this is not a "febrile" pulse at all, in the usual acceptation of the term, but one expressive of weakness and debility. Even in those rare cases in which the *fullness* of the pulse indicates "febrile" action, quinine in *adequate* doses will soon rectify the nervous disturbance on which this condition depends, and reduce the pulse. The increased heat of the body frequently conspicuous in pneumonia and other diseases, may be due to friction produced by the increased rapidity of the circulation (for it only occurs when there is increased frequency of pulse, and in proportionate ratio to it) or to increased rapidity of molecular changes tending to dissolution, or to both, and is only suggestive of solicitude when the remedies fail to rectify the disturbance on which those conditions depend.

The treatment I have found invariably successful is simply this: I give from 5 to 10 or 15 grains of quinine every two, three or four hours, according to the urgency of the case, for twenty-four or forty-eight hours, according as the periodicity of the preceding paroxysms has been quotidian or tertiary. When there has occurred no observable paroxysm after the first, which usually ushers in the attack, or if, as often happens, there has been none at all, but the physical signs be present, I continue it till these signs denote the resolution of the congestion. Usually it is safe to withdraw it when, having observed the gradation of accession from small crepitation to aphonia, a retrograde movement has reached the first degree in the aggressive series. Having instructed a physician near where I formerly resided, who could not interpret the physical signs, how to treat pneumonia, he was exulting in his success. "How," said I, "do you get along without auscultation?" "When I am in doubt," said he, "I always give a little more." It is better to "give a little more" than to stop short. Nervous equilibrium having been restored, proper nourishment and tonics will complete the restoration from the point above indicated. It rarely takes

more than forty-eight hours to attain this point, when the case has been seen before disorganization of the lung has commenced. But to aid the secretory organs themselves, perhaps, partaking of the general disturbance and impaired of power to eliminate from the blood the deleterious ingredients with which it is charged by reason of those organs coming short of their duty, I establish a vicarious office in the skin, and promote as far as possible free transpiration from the surface. Nothing does this so satisfactorily as a saturated solution of gum camphor in chloroform. Camphor being a diffusible stimulant, keeps up the powers of the system whilst it is accomplishing this object. I am not disposed to attribute any agency to chloroform in such doses, save as being a convenient solvent for camphor. Of this I give 10 gtt. with each dose of quinine, unless, as frequently happens, the diaphoresis becomes exhaustive before I deem it prudent to withdraw the quinine, in which case I diminish the dose, or withdraw it altogether. I give morphine in such doses and at such intervals as may be necessary to quiet excitement and procure rest. The usual prejudice against this remedy in pneumonia, founded on the assumption that it "arrests secretion," I will presently attempt to show to be fallacious. This being a form of disease under which the powers of the system are very speedily broken down, by reason of the imperfect æration of blood, I, from the first, direct the use of brandy or good whiskey *ad libitum* (the *libitum* being generally very agreeable to the patient, will insure a sufficiency) in the shape of egg-nogg, or milk toddy, or "straight," as the patient may prefer, and the frequent administration of nourishment in almost any shape that it is desired. This, with the regulation of the bed clothes to suit the *comfort* of the patient (a point of much importance), and free ventilation, so that a current, in cold weather, does not pass directly over the patient, and the prohibition of all disturbing influences as far as practicable, is all the therapeutic agency that I employ; and I can truly affirm that I never lose a case that was not moribund when I first saw it. I never bleed, nor purge (particu-

larly with calomel), for reasons set forth in my first article, nor give veratrum nor antimony, nor do I ever have occasion to cup or blister. In this, and in all cases, I allow my patients water *ad libitum*, having found it a safe rule, with few exceptions, to gratify any urgent cravings of nature. How vividly do I remember the tortures suffered by refusal to allow the gratification of a raging thirst, and how often have I seen the furtive violation of the commands of the physician lead directly to the recovery of the patient! Even in those cases in which it is immediately rejected, it is not the water that produces the emesis, but some offending matter that had better be evacuated, which the bulk of the water enables the stomach to discharge, or some condition of the mucous membrane, perhaps hyperæmia, that the temperature of the water and its bland influence will relieve. Moreover, being absorbed into the system, it may exercise such influence over the osmotic and catalytic operations, and molecular reärrangements, as greatly to modify them for the better. My patients are able to attend to business in from three to six days, according to the length of time they have suffered before I see them, and the consequent debility.

Now as to black jaundice, keeping general principles in view, I give quinine in large doses to quiet the nervous system, and chloroform solution of camphor to excite the skin to the vicarious elimination of urea that the kidneys fail to eliminate; and to arrest the exudation of blood from the renal capillaries, I give 3 or 4 grains of acetate of lead combined with opium every one or two hours, according to the effect, and continue it till the blood ceases to flow. I have given as much as two or three drachms to one case, although usually the desired end is accomplished before a dozen doses have been taken. In no case have I seen any toxic effect of the lead. The principal cause of the extreme prostration of the system by this truly formidable disease is uræmia. Whether urea is returned to the blood in substance, or that the component parts have not been worked up by the powerless kidneys, matters not. The blood still leaves the kidneys charged with effete matter that they

have failed to separate from it, the system is rapidly poisoned, and alarming prostration speedily ensues. Whilst the quinine is restoring the equilibrium of the nervous system, and the lead constringing the renal capillaries, the solution of camphor is forcing the skin to eliminate the urea with which the blood is charged. Perhaps gallic acid might be preferred to the lead by those who fear the toxic effect of the latter, and perhaps it might do as well; but I have no cause to quarrel with the lead, and as long as it meets my wishes as it has done heretofore, I will be entirely satisfied with it. Nor do I deem it a matter of material consequence whether the matter discharged from the kidneys be blood or purpurine, for when the latter is in such quantity as to create a doubt, the existing evil is so grave as to require the promptest interference. It can be easily distinguished from blood by its ready solution in weak hot alcohol (Bird). In this case the blood poisoning is occasioned by carbonic acid, and its rapid elimination by the skin, aiding the lungs, is urgently demanded. This condition, like hæmaturia, indicates a concurrent congestion in the liver, spleen, lungs and kidneys, occurring from disturbed innervation, which disturbance must be quieted before those organs can resume their functions. The, in this case, unnecessary exhibition of sugar of lead will do no harm, and the cure might have been accomplished without it. Concurrently with these remedies, I make free use of egg-nogg and other alcoholic stimulants, and such nourishment as the patient will bear, usually beef or chicken tea, modern chemistry to the contrary notwithstanding. In a recent case there was total suppression of urine after five or six doses of lead (which had been given every hour) had been taken, when it was withdrawn; which suppression continuing for twelve or fourteen hours, and cerebral disturbance tending to coma being threatened, I ventured to give some mild diuretic, watermelon seed tea (as I happened to have no other at hand), a few ounces of which restored the flow of urine; but being still charged with blood, I resumed the lead in smaller doses and longer intervals, continuing meanwhile the main remedies,

quinine and camphor, and had the satisfaction to see the color, gradually grow less and less distinct till the normal appearance was restored in thirty hours. In this, as in all diseases, when any unpleasant cerebral indication occurs, I obviate it with morphine.

This same treatment I use with uniform success in any other form of hæmorrhagic malarial fever, when the blood comes from the stomach (but in this case I combine carbolic acid with lead), the bowels, the nose, or from all at once and the gums too, accompanied with purple splotches over the whole surface (purpura hæmorrhagica), as I have seen it. In all these cases the sugar of lead has given me better results than any other astringent I have tried. This "new disease," "black jaundice," "hæmorrhagic malarial fever" (the best name), I have seen more or less intercurrent with other forms of malarial fever ever since I have been in practice since 1836.

Erysipelas, which is occasioned by an impairment of osmotic or molecular action, in the spot involved, tending to disorganization, is successfully treated in the same way, and by the same remedies as pneumonia, with the addition of the local application of the tincture of the perchloride of iron, an advantage which its accessible position gives us, and the internal administration of the same in cases of a phlegmonous tendency.

Another form of malarial fever which is very frequent in this State (although I have frequently seen it in other States and sometimes endemic) and almost uniformly fatal under the usual modes of treatment, is cerebro-spinal meningitis. It prevailed endemically in Bryan in 1870, where there were many deaths, one gentleman losing five or six of his children, although some of the physicians there would stand high in any community; and in Tehuacana this year, where the exercises of a college were suspended on account of it. In its treatment I rely on the same sheet-anchor—quinine, and ice, if to be had, or the affusion of cold water poured from a height on the shorn scalp, hot mustard pediluvia, and occasionally stimulating enemata for their revulsive effects, and opium to *compel* quietude. This I

administer, by preference, hypodermically, and aid its effects by the inhalation of chloroform. Probably hydrate chloral would be a valuable anodyne in this disease if given in adequate doses; but having occasionally seen it produce hyperæsthesia, either from some impurity of the particular article used, or from inadequate dose, I have been afraid to try it in such alarming circumstances as are usually present in this disease. I am fully aware that I am going counter to all scholastic teaching known to me in using opium in such cases; but I will give my reasons for it, by which, if my assertion of success be not credited, I am willing that the practice should stand or fall. By reference to my first article, before alluded to, it will be seen that if opium, which addresses itself proximately to the cerebro-spinal system of nerves and remotely to the sympathetic, be given simultaneously with quinine, whose action is upon the sympathetic, the equilibrium of the two, which has been interrupted, will be restored. This I reïterate. Let us examine the reasons given why it is inadmissible. Dr. Wood, the latest author I have on Practice (for I much prefer the current literature to keep practitioners posted), says, "because of its well-known tendency to excite the brain." Dr. Stokes ("Bell's edition 2d Amer., vol. 2d., pp. 413, 4, 5, so much does he take to prove his position, of course endorsed by Dr. Bell) assigns two reasons, first, "because of its well-known tendency to add to existing cerebral excitement." Now, I have already endeavored to show how and why congestion is either passive or active. I am not disposed, nor is it material, to determine in which of these conditions the brain and its meninges may be in this disease. The phenomena, delirium, convulsions and coma, may result from either. If the condition be one of anæmia—too little blood—manifestly more should be sent to it to supply the deficiency. What would be more likely to do this than something that would "excite the brain," or if hyperæmic, something that would cause a contraction of the over-distended capillaries, making them to force out the accumulated blood and send it along in its accustomed channels. This last is, I presume, the condition supposed by those authors.

If the vesicles be put into a condition of over-distention by the *vis a tergo* of an inordinately active circulation—active congestion—opium by depressing the energy of the nervous system which controls the action of the heart, diminishes the activity of the circulation, takes away this force, and tends to the relief of the consequent congestion. The second reason assigned by Dr. Stokes, is that "delirium and convulsions give relief to the brain," as mucous discharges in diarrhœa give relief to the hyperæmic mucous membrane of the bowels, and asserts that if in either case the flow be checked by opium "the inflammatory" congested "condition" will be aggravated. Now, with all deference to so high authority, and feeling sensibly the presumption of calling it into question, I cannot see the analogy between the two cases. For if we admit the material doctrine that thought and will (for delirium is but perverted thought, and convulsions but excessive and perverted will) are secreted by the brain, it cannot be shown that they can be retained in the secreting viscus in accumulated quantities; for if this were so, it would be possible for one to think so much as to burst his skull, yet who has ever heard of such a phenomenon! The brain cannot conceive a second thought, nor a second motion of the will, without *ipso facto* being relieved of the first; and it does not require the agency of the nervous conduits to be *emulged* from the brain, there may be no outward manifestation of its passing away; if so, there could be no thought conceived, nor motion of the will, without its being made manifest by the blabbing of the tongue, or the responsive action of the extremities; no silence, no repose of muscles whilst thought and will were occupying the brain, except at the risk of producing coma or paralysis by being retained. What a sad condition would this be for frail humanity! If memory be adduced as an instance of the accumulation of thought without oppression of the brain, I answer that it cannot be shown to be an *accumulation* of thought, each thought or portion of a train being *retained* as a part of the aggregate *bulk* of facts remembered; for it is simply a habit which the brain acquires of *recalling* a thought or train of

thoughts which had once impressed it, each thought of the train passing off as the succeeding thought comes into view. If it be an *accumulation* of thoughts laid up in store for future use, and thought be a secretion capable of producing physical effects by accumulation, the progress of age, and improvement of this faculty, must involve a corresponding increase of the physical capacity of the brain. But we see that the faculty can be greatly cultivated and increased without any increased size of the brain. Two thoughts cannot occupy the brain at the same time; if so, and memory be an accumulation of thought, and thought a secretion of the brain, so far from militating against my position, it would be an insuperable argument in its favor; for it would prove that thought could be indefinitely accumulated without producing oppression of the brain, and that, consequently, opium could be given to allay delirium without danger of producing coma or paralysis. But the brain does not elaborate from the blood thought and will, as the liver does bile or the kidneys urine; nor does it owe its faculty of multiplying thought to increased turgescence of its capillaries, as does the mucous membrane of the bowels that of producing diarrhœa; if so, we could understand the connection between mind and matter, which is not given to man. Nor does it when an excessive quantity of blood is sent to it, within certain limits, by increased action manufacture a greater quantity of thought and will, as do those organs of their proper secretions under like circumstances; if so, a plethora of the brain which produces confusion of thought and dullness of intellect would be a better condition for the operations of the mind than a normal degree of fullness. Delirium and convulsions, which are produced by different degrees of distention of the capillary vessels of the brain and its meninges, are occasioned by the irritation and pressure of the distended vessels, acting mechanically, just as any other body of the size of those vessels would act if it could be introduced into the same situation. The blood is sent to the brain to preserve its vitality and its animal organism, and in the performance of their functions the meninges separate

from it a portion of its serum. If the quantity of blood be more than is required, yet not enough to disturb the meningeal capillaries so much as to force through them (extravasate) so much as to overwhelm the brain by pressure, there will be delirium or convulsions according to the degree of pressure; but if the quantity be so great as to produce pressure beyond the point of delirium and convulsions, there will be coma or paralysis. In either case the effect is mechanical, and the different effects the results of different degrees of pressure. Opium, by lowering the energy of the nervous system and, consequently, the activity of the circulation, would relieve the blood vessels of the brain of their distention, and consequently allay delirium. Dr. Stokes admits that it will have this effect, but condemns its use for what I humbly think I have shown to be fallacious reasons. Even admitting that delirium and convulsions are secretions, opium, by lowering the energy of the nervous system on which secretion depends, would deprive the brain of the power to secrete that the escape of which through the nervous channels occasions the (according to him) salutary effect of delirium and convulsions, and the secretion, not being produced, could neither escape, producing delirium and convulsions, nor accumulate, producing coma and paralysis. The doctrine of Dr. S. would establish the correctness of the practice of the quack who threw his patients into fits because he was "death on fits." I have been thus urgent for the use of opium in cerebro-spinal meningitis, in all cases attended with inordinate excitement of the brain, because I have found it to be a most important aid in their treatment, and because, so far as I know, it is prohibited by all authority. Of course, in order to obtain its sedative effect the dose should be proportioned to the existing degree of excitement. It is *pre*-scribed by all in similar conditions of other mucous membranes, and even in the same condition of this, and attended, too, with the phenomena delirium and convulsions when occasioned by alcohol. Why should it be *pro*-scribed in this? "*Nullius addictus jurare in verba magistri*" must be my excuse for opposition to authority.

Cholera, although the result of a specific poison, is so speedily followed by collapse as to leave no doubt that this collapse is due to overwhelming nervous depression. That death is not always, if generally, due to the exhaustive effects of discharges, is shown by the fact that it generally takes place before there is any evidence that the vital organs have been exhausted of their resources were the power to utilize these resources afforded them; by the fact that it often takes place before the discharges have amounted to the quantity usually passed in an ordinary attack of cholera-morbus or diarrhœa which result in recovery without serious detriment; by the fact that it sometimes takes place when there have been no discharges at all, and by the fact that the collapse gradually diminishes and passes away, in cases of recovery, while the flux continues until reäction has been established. This being the case, the nervous system involved (the sympathetic) should be calmed and quieted, and restored to its equable action by the appropriate (I am tempted to say specific) remedy, quinine, whilst ôther suitable remedies sustain the system and eliminate the poison. Among these the chloroform solution of camphor would, I think, without the experience to sustain me that I have in other diseases, take high rank. Now let us deduce from this theory the solution of the question, what is fever? It is the expression of disturbance of the central controlling nervous system. The phenomena which, according to the books, characterize fever, heat, increased circulation, loss of appetite, etc., may or may not be present in whole or in part. For instance, we have what is called intermittent fever, an essential characteristic of which is that, for a longer or shorter time, none of these attributes of fever are present. Does not the fever exist nevertheless? Assuredly, else the recurring phenomena must be due to recurring and independent attacks of the cause. This disappearance from view of these manifestations of fever is owing to the exhaustion of nervous irritability during the paroxysm, and the consequent ability of the nerves to excite such actions as produce these phenomena. As soon as the nerve has recovered from the collapse and at-

tains the ability, the phenomena recur. This succession of excitement and collapse must necessarily disturb the functions of organs, and sooner or later establish organic lesions in some one or more of them. This in turn becomes a focus of action, which, reflected back upon the nerve, supplies it with such stimulus as to prolong its excitement and prevent the periodical collapse. Thus we have what is called remittent fever. If the stimulus thus afforded be in excess of this degree, the nervous excitement will be so great and so protracted as to produce "continued fever." So that to the above definition we should add, "and of organic derangement of some organ." The formula would then read thus: Fever is the expression of disturbance of nervous equilibrium and of organic derangement. It may not be a vital organ, but any portion of the body. This being the case, we should search for the organ or organs implicated, and whilst addressing to the *primus motor* of this disturbance the specific remedy to quiet its excitement and restore it to order, should at the same time direct such remedies to the organ involved as will restore it to a resumption of its functions.

Metastasis is probably owing to a coïncident impairment of innervation in the organs affected. I have already attempted to indicate how gout and rheumatism may be occasioned by the impairment of nerve power, aided, perhaps, by some accidental cause interfering with osmotic and catalytic actions and molecular reärrangements in the part affected. Being established, they continually reäct upon the nervous system until some organ, the brain, the heart, or other, may become so fatigued and weakened as to fall an easy prey. When established in a more central position, the nerve may become so much overpowered as to be unable to keep up the more remote action first established, and the disease may, consequently, disappear from its first position. The transmission of mumps from the parotid gland to the testicle may, perhaps, be accounted for by the fact that its original seat is so near to the cerebellum, which is known to exercise a powerful influence over the testicle, as to

impair its power to transmit its customary influence to those organs, being deprived of which they become too weak to resist the disease.

Since writing the above, I have seen in the April No. of this Journal an account of the successful treatment of cerebro-spinal meningitis, in several cases, by some physician of Tehuacana, Texas (his name not given), by bloodletting and purgatives. I think the recovery can be accounted for thus—those remedies so completely prostrate the powers of the nervous system as to disable it to keep up the action necessary to the maintenance of the disease, and the patient recovers from the consequent prostration of the general system by reason of the strength of his constitution. The element that formerly entered so largely into the calculations of prognosis ("*if* the constitution can bear the remedies he will recover") ought to be discarded from the consideration by the disuse of such hazardous remedies. It is better to subdue the excessive nervous activity by remedies that act directly on the nerves, quinine and opium, without subjecting other organs, and the system generally, to the necessity of partaking the prostration, and incurring the risk of fatal collapse. *Adequate* doses should be given to compel quietude, and adequacy is proportioned to the degree of excitement existing in each case.

ART. III.—A CASE OF EXTENSIVE FLESH WOUND OF THE HEAD, COMPLICATED BY FRACTURE OF THE SKULL—RECOVERY. By JOHN FIELD, M. D., Sheridan, Oregon.

I was called, on the 17th of May, 1872, to see the son of Captain L., aged seven years, who had been kicked by a horse sometime about 4 o'clock that evening. I live twelve miles distant, and it was near 9 o'clock when I reached the sick room, where I obtained the following history: The children (three in number) were returning from school, according to their usual

custom; sister older and a brother younger were riding, and this one walking in the road behind the horse. The horse was supposed to be entirely gentle and safe. In order to hurry the animal along, the boy struck him with a stick he was carrying, whereupon the horse kicked him. The boy received the blow immediately over the right supra. orbital bone, entering the skin in the upper edge of the eye-brow.

I will now proceed to describe the character of the wound, and the operative procedure for its repair, as well as the course of subsequent treatment adopted. The injury was received about 4 P. M.; I reside twelve miles away, so it was 9 P. M. before I reached the bedside. I made the necessary arrangement for dressing the wound, placed the boy on a table (during this time he was lying insensible on the floor). Administered chloroform, proceeded to wash and examine the superficial wound, which was rather semi-circular in shape, extending from the upper edge of the right eye-brow (as before stated) backward and downward to about the centre of the squamous portion of the temporal bone, and upward and forward from the first point indicated till the cut terminated over the right frontal eminence, making a cut near four inches from point to point. As the hoof cut through the integument and muscle, and reached the bone at the first point of contact, it glided on the smooth, bony surface, removing every vestige (so to speak) of muscular tissue, until the hoof reached a point in the centre of the cut, on a line with the two extremities, forming a complete flap, under which was as much as an inch square of bone left exposed; near the frontal terminus of the flesh wound the blow caused a fracture of the skull, the fracture slightly oblong, detaching and depressing a portion of bone, a half by three-fourths of an inch; from that centre the fracture seemed to radiate very much as the fracture observed when ice is struck with a hammer. In addition to the first-named piece of bone, there were three or four smaller pieces found lying loose in the wound.

The operative procedures in this case were, first thoroughly cleanse the wound from coägula and other foreign substances; I

next, by the aid of forceps, removed the impacted bone, together with those minor pieces before spoken of. There was one edge of the cranium, where this large piece of bone was driven in, that was left rough and sharp, which I made as smooth as I well could; I then proceeded to dress the flesh wound, which I did by placing the edges of the wound in exactly their original relation, securing them in that position by sutures and adhesive strips. The boy was then permitted to rally from under the influence of the chloroform, which he did apparently perfectly, so far as the effect of the chloroform was concerned, in half an hour.

The subsequent course of treatment adopted was cloths wrung out of cold water and applied to his head, and they frequently changed. Enjoined strict quietude of the apartment, also to exclude the light as much as possible, in order to keep him supplied with fresh air.

May 18*th*, 6 *A. M.*—Reäction fully restored; some fever (had no thermometer to note the temperature); pulse 110 full. Conscious, but not entirely rational. Keeps up a constant moaning, or rather a whining complaint. Prescribed ℞—Veratr. virid., ʒss.; syrup, ʒii. Mix. Dose, half teaspoonful or such a quantity every four hours, as would make a noticeable impression on the circulation. ℞—Hyd. chlori. mit., grs. xii.; divide into charts. vi.; give one every four hours. If bowels not acted on by late evening, use sulph. magnesia or castor oil. After the bowels were moved, continue the remaining powders every six hours.

May 19*th*, 12 *M.*—Pulse still full, but not so frequent; the sedative effect of the veratrum was very perceptible. Pulse 90; skin not so hot as yesterday; bowels acted last night. The patient continues to moan. The wound presents a favorable appearance, the present condition will warrant one in predicting that the wound will heal by first intention. Continued treatment, with the addition of hydrate chloral and bromide potassa, twenty grains of former and forty of the latter, to two ounces water. Dose, one teaspoonful every four hours, with directions

to use it more frequently if he became restless, or if the moaning became worse. Continued the calomel, two grains every six hours. Left, with a promise to see the patient on Monday (this is Saturday).

May 20th, Noon.—Patient much improved, his father informs me, to use his own expression, that he woke up yesterday (Sunday) about 1 P. M.; just previous to that time the bowels acted freely, showing the effect of the mercury. After his bowels were thoroughly unloaded, and having been kept under the influence of a sedative, the turgescence of the cerebral vessels were relieved. The treatment was now restricted to diet of a light character. Room dark and quiet; wet cloths, as previously directed.

The flesh wound healed nearly completely by first intention. The most dependent portion of the wound was left in a condition, that if there should be suppuration under the flap the pus could be discharged; but the edges of the wound healed, and that, too, somewhat in advance of the extensive surface of the main wound. On the sixth day some pus was discharged from a small abscess that formed at the temporal terminus of the wound. On the tenth day, the boy being entirely rational, free of pain and all appearance of general febrile action, was permitted to leave his bed and room. Since the patient has steadily improved, till he is now thought to be out of danger (speaking in general terms).

ART. IV.—ECLAMPSIA TREATED BY CHLOROFORM. By BENJAMIN RHETT, M. D., Abbeville, S. C.

Of later years investigations into the chemical condition of the blood of women laboring under puerperal convulsions show the existence of urea in undue quantity present in that fluid. Puerperal convulsions and uræmic condition of the blood are generally, if not universally, coïncident. The healthy, unob-

structed kidney unceasingly abstracts from the arterial current urea, with the other constituents of healthy urine. Whether acting, according to some physiologists, as a mere filter for urea and uric acid, preëxisting already in the blood, the result of the retrograde process of muscular disintegration or pre-formed by the liver, where it is found to exist in greatest quantity when the kidneys have been extirpated; or, according to other observers, directly excreting urea and uric acid by its own glandular action.

Whether a filter for urea and uric acid, or a secretory gland forming these substances by glandular action, one point meets the assent of all observers, that should the urea be retained in the blood in undue quantity either from a failure of the kidneys to remove it, or from its reäbsorption into the blood from disease or mechanical pressure upon kidneys or ureters, it acts as a poison upon the nervous centres, producing coma and convulsions.

In gravid women, especially primiparæ, changes occur in innervation, blood distribution, and mechanical displacement of and pressure upon the viscera, which affects the health of some subjects injuriously throughout their pregnancy.

Assuming, then, that the presence of urea in undue quantity in the blood is the offending cause in eclampsia, whether from congested condition of the kidneys, paralysis of those organs, or or mechanical pressure upon kidneys and ureters, one or both from a gravid womb and unyielding abdominal muscles, we have present in the vital current a poison to the nervous centres, which will destroy life unless it be eliminated, or its effects upon nervous organs be neutralized.

But can we eliminate this poison from the blood? Can we, by drugs, rouse the kidneys to timely action, and so save our patient. All experience contradicts such expectation. Can we rid the patient of its presence through other excretory organs? bowels or skin? decidedly not; we may benefit our patient by a purgative, counteracting determination to the brain, and by revulsives to the skin of the extremities, equalizing as far as practi-

cable the circulation. Can we, with the lancet, open a wicket in the vein, and allow the foe to abandon the citadel? The enemy will not so leave the fortress. Do we gain anything by venæsection. I believe bleeding to be of use to relieve that turgid and apoplectic condition which is not unattended with danger of fatal cerebral congestion or hæmorrhage. I even advocate its repetition to arrest so serious a complication. Can we introduce into the circulating fluid a chemical neutralizing agent? None such has been discovered.

Our last resource is, if practicable, to counteract the poisonous effect of the urea upon the brain by dulling its sensibility, by stilling its irritability, thereby gaining time for bringing into play every means of relief, and the removal of all agencies producing or aggravating the alarming and distressing condition of the subjects of this frightful malady, giving opportunity unagitated by the struggles of the patient for investigating the causes, and the best means of relieving the diseased condition, and restoring the balance of health. To accomplish this end, morphia and chloroform are our sheet-anchors. The last-mentioned drug is far the most effective agent. For when morphia has been exhibited to a certain extent its effects upon the congested brain is almost as much to be dreaded as the poison it is intended to counteract. Besides, it fails to accomplish the purpose intended. Not so with chloroform. Its effects are much more evanescent and much more under control.

Judiciously administered, given *mixed freely* with atmospheric air, and the inhalation of the chloroform so regulated and restrained as to stop short of its full narcotizing effect, and yet to obtain its soothing influence, has the power of allaying the nervous irritability and controlling the spasmodic muscular disorder attendant upon puerperal convulsions. And I have yet to see the limit as regards the length of time its influence (so restrained and guarded) may be kept up.

These remarks are proposed as introductory to the relation of two cases of great interest confirmatory of the above views.

CASE I.—Primipara, about twenty-three years of age, light hair, fair complexion, full habit, strong and robust.

On the 23d of March, 1872, I was called at 3 o'clock P. M. in consultation in above case. The physician in attendance reported that the labor-pains commenced about 9 o'clock A. M., and although feeble, had progressed steadily for some hours without any alarming indication other than headache. Suddenly the patient was seized with a convulsion. Her medical attendant immediately abstracted blood and administered morphia, and, at the request of the patient's friends, called in another physician. Another convulsion occurring, more morphine was given, and ergot internally, to increase the force of the pains and hasten labor.

Upon supervention of a third convulsion I was sent for, and arrived just as the patient was rallying from her third attack, presenting the following points to observation: Face and throat turgid, foam around lips, respiration stertorous, iris irresponsive to light, and patient unconscious. Examination showed head presenting in upper strait, brow presenting behind pubis.

Upon consultation it was agreed to put the patient under the partial influence of chloroform as above described, and to inject ergotin hypodermically. Labor advancing very slowly, an attempt was made to deliver by forceps, but owing to the rigidity of the parts, the great bulk of the head and length of the child's hair, the forceps could not be got into position to lock without using undue violence. One blade was then withdrawn, the other was retained as a lever, and the labor hastened thereby, with all due caution, great care being necessary, owing to the thickness and rigidity of the perineum. However, with leverage of one blade of forceps, an extremely bulky male child was brought still-born into the world at 9 o'clock P. M.

From 3 o'clock, the time she was placed under the influence of chloroform, until after 9 o'clock, when the anæsthesia was permitted gradually to cease, she had no further fit, neither did convulsions recur after the withdrawal of the chloroform. Thus it will be seen that the patient was kept under the continuous

influence of the drug for upwards of six hours without injurious consequences, as she made a good recovery, her convalescence unattended with unusual symptoms.

The next case gives a still more striking exhibit of a more persistent and prolonged use of the remedy, and shows more clearly than the first case that chloroform, and chloroform alone, was the controlling power in holding the disease in abeyance.

CASE II.—Primipara, about twenty-six years of age, fair complexion, dark hair and eyes, full habit, strong and robust.

On April 4, 1872, at 8 o'clock A. M., I was called to see case second in consultation. She had been just seized with a fit, having left the breakfast table indisposed, having complained the day before of nausea, and of headache on the morning of her seizure.

Upon consultation it was agreed at once to place her under the influence of chloroform, she having been bled previous to my arrival and morphine given.

Before the chloroform could be obtained and the patient put under its control, in spite of the venæsection and morphia the patient had several severe fits in rapid succession. No sooner, however, was the inhalation fairly begun than its charmed and charming effects brought about a great calm. The enemy acknowledged the magic spell, but showed itself prepared to spring upon its victim upon the slightest intermission and rack the unhappy sufferer. It was ascertained upon inquiry that the patient's confinement was not expected for three weeks, and an examination showed no signs of dilatation of the os uteri, which was high up in the pelvis; neither were there any contractions of the womb obvious to abdominal palpation. It was agreed that the irritable condition of the patient and the imminence of the convulsions demanded that labor be induced. With the view of exciting labor-pains ergot was given internally, ergotin hypodermically injected, frictions made over the abdomen, and the os uteri irritated. Between 11 and 12 o'clock M. labor-pains began; about 4 o'clock P. M. the os was the size of a half-dollar.

Here dilatation apparently ceased, the os seeming to contract instead of dilating at each contraction of the womb. After some delay the waters were evacuated by the finger, the os freely annointed with belladonna, and dilatation effected by steadily pressing the fingers brought together in form of a wedge into the os and dilating. With all manipulation the progress of dilatation was provokingly slow. However, about 10 o'clock P. M. the breech presenting, I succeeded in getting hold of a foot and drawing it down, then the other foot, then the arms were swept in front, then the finger passed into the mouth, and the face rolled into the sacrum; at this point the womb contracted above the upper strait, leaving the head in the vagina without expulsive power; the forceps were speedily applied, and a still-born female child of ordinary dimensions delivered between 10 and 11 o'clock at night. After delivery an effort was made to withdraw the anæsthetic influence, and to permit the patient to recover from the prolonged use of the chloroform. No sooner was its controlling power withheld than the dire malady reëstablished its hold, and a series of terrific convulsions followed, producing such arterial excitment, turgescence and coma, as to call for prompt venæsection, and before they could be again allayed it was found essential to fully narcotize the patient with chloroform. Upon its *full power* being developed, control over the eclampsia was again established. Between 12 and 1 o'clock the chloroform was gradually diminished, and withdrawn at 1 o'clock without return of the malady, to our intense joy and satisfaction.

Second case did not make as good recovery as first case, there being considerable nervous prostration and disorder of circulation for three or four weeks, but in the end patient made a good recovery. I do not think that this disturbance can be fairly attributed to the prolonged use of chloroform, she having been kept under its influence for sixteen and a half hours, from half-past 8 o'clock A. M. to 1 o'clock at night, but rather to the combined action of venæsection, eclampsia, an arduous and prolonged labor, morphia, and chloroform, not to mention bel-

ladonna, almost forcible dilatation of os uteri, labor induced before full period, etc. The disturbance will be more fairly assigned to the concatenation of causes than attributed to the use of the anæsthetic.

Portions of an article on "Malignant Diseases of the Uterus," by Dr. John Fordyce Barker, in the June number of "Richmond and Louisville Medical Journal," published since the above was written, is so much to the point that I have appropriated extracts as bearing upon the subject.

Dr. Barker says, speaking of the implication of the other organs in neighborhood of the cancerous womb, Dr. Lusk quotes Dr. Cornil as saying, "so also from this cause in many cases the ureters become partially or completely obstructed." "With these obstructions to the excretion of urine we expected uræmic symptoms to be manifested, but they were not. Although the attention of Mr. Charot and myself were fixed upon this point, we never saw either epileptiform convulsions or coma, peculiar to uræmic poisoning."

Dr. Lusk says that "Leyfert has been in the habit of employing this fact for years as an argument against the uræmic theory of eclampsia."

Dr. Barker then says: "In my experience two instances have occurred which do not coïncide with the above statement. In 1853 I several times saw, with the late Dr. Henry G. Cox, a patient in whom the cancerous deposit had extended from the uterus to the vesico-vaginal and recto-vaginal walls. As I lived much nearer than Dr. Cox, I was called in the night to see her on account of an attack of convulsions, and found that no urine had passed for forty-eight hours. I introduced a catheter, and found no water in the bladder. During the night she had five convulsions. The *tendency to convulsions* seemed to be overcome *by chloroform.*

In 1858 I saw several times, with Dr. Oliver White, a lady with extensive cancer involving the uterus and neighboring organs who, during my attendance with Dr. White, had complete suppression of urine accompanied with profound coma,

which continued, as Dr. White informs me, nearly four days. In this case I also passed a catheter, but there was no water in the bladder. Suddenly a most enormous discharge of urine took place, and the patient gradually came out of the comatose state and lived some weeks."

The affirmative evidence of two cases is worth a dozen merely negative instances. In both Dr. Barker connects the convulsions and coma as a sequence of the suppression of urine. In the first his attention has evidently been aroused to the controlling power of choroform over the convulsions, inasmuch as he says the "tendency to convulsions seems to be controlled by chloroform." I have not the slightest doubt but that others have become aware of the value of chloroform in eclampsia; but I was unaware of its having been available in the hands of others when I commenced its use, and I still think that few if any of the Profession are aware of its value when used as I have endeavored to describe—the prolonged use of it as an agent for allaying the irritability of the brain in eclampsia without developing the full anæsthetical power of chloroform.

I feel so assured of its value, so used, that I do not hesitate to commend it to the attention of the Profession, not as a curative, but controlling agent in this frightful malady.

ART. V.—ENTROPION. [A Paper read before the Southwestern Kentucky Medical Association, May 20, 1872.] By E. B. RICHARDSON, M. D., Paducah, Ky.

In a paper on "Trachoma or Granular Lid," read before this Society at its last meeting, I referred to entropion, or inversion of the edge of the lid, as sometimes resulting from that disease, and I purpose now to give a few thoughts and reflections upon the pathology of the affection and means of cure, with a case or two illustrating the same.

There are, generally considered, three kinds of entropion: The

traumatic, acute or spasmodic, and chronic, or that which is dependent upon inflammatory changes in the conjunctiva, subconjunctival tissue, or tarsal cartilage.

The treatment of the traumatic form will depend upon the extent and location of the wound and the tissues involved in the injury.

In the acute or spasmodic form the inversion depends upon an energetic contraction of the orbicularis muscle, generally attended with a lax condition of the palpebral cuticle.

In some instances the slitting of the outer canthus, and along with it some of the orbicular fibres, will suffice for its cure; in others this is insufficient, and, in addition to the above, an oval piece of the skin of the lid and a strip of the orbicularis must be removed, and the edges of the wound drawn together with sutures (the size and shape of the piece of skin removed depending upon the laxity and superfluity of that tissue).

The third form is that which gives so much trouble in its treatment, and for the relief of which operations often fail. It is due to the structural lesions, spoken of above, the result of long-continued ophthalmia tarsi, neglected catarrhal conjunctivitis, trachoma, destruction of tissue by caustics, etc.

Spasmodic entropion is *especially* a disease of old age; chronic entropion a disease of youth. Why this is so, no author whom I have consulted has shown.

In many cases of granular lid, occurring in old persons, coming under my observation, in not one has there been any inversion, or tendency to inversion, of the edge of the cartilage; but in a large per cent. of the cases of this disease occurring in the young whom I have seen, there has been more or less inversion; that per cent. influenced, too, by the length of time the granular condition of the lid had existed, and the amount of conjunctival cicatrization present.

Some ten or twelve months ago a father and son consulted me about their eyes. The former about fifty, the latter about twenty-two or twenty-three years of age. The father had suffered for ten or twelve years, the son for eight or ten; the one

attacked when about forty years old, the other when twelve or fourteen. There was entropion or eversion in the father, and entropion in the son, both of the same temperament, both suffering from the same disease (trachoma), both living under the same hygienic and sanitary influences, and both having used the same remedies. Why this difference in the effects of the same disease in these two individuals?

It is well known that in severe injuries about the hip-joint, from blows or falls, where either a fracture or dislocation is produced, the age of the patient is a valuable aid in making a diagnosis. Every physician is aware of the changed nature of the bones of *old* people, owing to the increase of the phosphates, which makes them harder, more brittle, and friable.

Dr. Pancoast, in his edition of "Quain's Anatomical Plates," says "the articular cartilage in young persons is thick, and the compact layer of the epiphysis below it is thin and fragile, whilst in the old the compact layer of the epiphysis is thick and strong, and the cartilage covering it is thin and rigid, and so firmly united to the bone below as to be with difficulty removed by the ordinary process of cleaning." It is owing to this unyielding condition of the bone, epiphysis and cartilage in the old, that fractures occur so readily when a sudden or strong force is exerted upon them; in the young those tissues bend to the force, the head of the bone is pulled from the socket and dislocation produced.

There is no doubt that a change takes place in the cartilaginous tissue, as age advances, similar to that which takes place in bones, and *that* change renders the cartilage firmer, more compact and less yielding.

We have now, in my opinion, an explanation why chronic entropion is peculiar to youth. When cicatrization of the conjunctiva and the underlying tissue takes place, producing a contraction of those tissues, the edge of the lid is drawn upon and the soft, yielding cartilage of young persons will give way to the force exerted and the edge curl under or incurve; the hard, compact cartilage of mature or old age will resist and no incurv-

ation take place, but other changes may be set up in the tissue from the irritation produced by the cicatrization and contraction.

Now as to operations for the cure of entropion of this nature. The removal of a portion of the skin of the lid, or of the orbicular fibres, or the performance of any operation not involving the cartilage, will fail to relieve the inversion. This conclusion has been arrived at by the most eminent oculists. Some even go so far as to say that no operation, preserving the integrity of the lashes, will succeed. George Lawson, F. R. C. S., the author of recent elaborate and popular works on diseases and injuries of the eye, says "when the entropion is severe and due to a thickened and contracted palpebral conjunctiva, the only operation which will afford permanent relief is the removal of the *entire* row of lashes. He as well as others who advise this operation, are emphatic in their advice to remove the entire row, even if only part are inverted, as the contraction of tissue at the end of the wound will turn in those left next to it.

About a year ago a boy, ten or twelve years old, on whom this partial operation had been performed, was brought to my notice by Dr. J. W. Thompson. The operation embraced the outer half of the right upper lid; near the centre of the edge of the lid the lashes were inverted by the contraction following the healing of the wound, and lay directly upon the cornea; and from the irritation produced by the friction of the lashes, nearly the whole half of that membrane was infiltrated with lymph, and the remainder of it more or less opaque from the same cause. He was incapacitated for any pursuit requiring close application of the eyes. He was also suffering from ophthalmia tarsi. He had never been able to attend school. I removed the remaining lashes of the lid which had been previously operated upon, gave him a wash and an ointment for the tarsal trouble, and in a short time he was able to attend school and apply himself to his books.

Arlt, Wells, Pagentecher, Græffe, Snellen, and many others, have each devised operations for entropion. Græffe, Wells,

Streatfield, and Arlt, involve the cartilage. I will not, however, trespass on your time and attention to notice the many operations for this affection, and will only mention that of Wells. It consists in removing an oval piece of the skin of the lid, making a longitudinal incision through the orbicularis, a line or two from the edge of the lid, down to the cartilage, dissecting out a long, narrow strip of the same, passing sutures through the orbicularis and skin, and bringing the edges of the wound together.

The following case illustrates an operation of the kind somewhat modified:

Miss L. B., age twenty-two or twenty-three, five or six years ago suffered from disease of the eyes involving the conjunctiva, tarsal border and cornea. She was placed under Drs. Vanzant, Pope, and another physician of St. Louis, at different times, and returned home without benefit, where she lost the right eye.

I first saw her about the middle of August, 1871. There was then entropion of both upper lids, the lashes sweeping down upon the cornea of the left eye and against the remains of the globe of the right. In the left there was a diffuse corneitis, constant intolerance of light, with great opacity. The whole eye looked irritable, vascular, and watery. A solution of atropia dropped in the eye showed numerous adhesions between the anterior capsule of the lens and the iris, the result of iritis, the inflammatory action having extended from the cornea. She suffered greatly from nocturnal temporal and supra-orbital pains which accompanied the iritis. The remains of the globe of the right eye were likewise kept in constant irritation from the inturned lashes, and she was in the habit of pulling them out to get some relief from the excruciating torture; in consequence of this the edges of the lids were thickened and inflamed, while from time to time tarsal abscesses formed, which added to her misery. She had not been able to see to read for five years.

On September 26th, assisted by Drs. Saunders and Thomp-

son, I operated on the left lid. The patient had previously taken Squibbs's chloroform, ℥iij., preceded by hydrate of chloral, gr. xx., without anæsthesia being produced, for an operation involving the skin and muscle only, and which failed. So the present operation was performed without any anæsthetic. A Snellen's clamp was put on the lid, and amid the struggles of the patient a strip of skin, about two lines in width and slightly curved upon its upper border, was dissected off nearly the entire length of the lid about one and a half lines from and parallel with its tarsal edge, a longitudinal incision was then made through the orbicularis down to the cartilage. Owing to the struggles of the patient the dissection was made with difficulty, and, instead of excising a long, thin strip of the cartilage, I was obliged to take out small pieces at a time, by taking hold of the cartilage with toothed forceps and making a quick stroke with the knife when opportunity offered. After sufficient had been taken out I joined the tarsal part of the lid to that above by sutures passing some distance under the skin and coming out near the orbital arch; cold-water dressing was applied, and the sutures were allowed to remain for five days, so that the ulceration they produced might occasion greater contraction of skin-tissue, and, consequently, greater eversion of the lid. There was a natural turning out of the lid after the wound healed, the irritability of the eye subsided, the corneal inflammation became greatly absorbed, she was freed from the severe nocturnal headaches, the eye bore the light well, and in a short time she was able to read ordinary print; indeed, she subsequently informed me that she had read a novel through, read the daily papers, and could thread a needle. Sometime afterward I operated on the right lid in same manner as on the left, the patient being remarkably quiet under the operation. Drs. Maxwell and Becker kindly assisted me.

The above operation differs in two respects from Wells': First, in not cutting out an oval piece of skin, the loss of much of which in cases of this kind is to be avoided if possible, as there is very generally a contracted condition of that tissue, and the removal

of oval flaps will increase the contraction and lessen the mobility of the lid.

Secondly, in passing the sutures some distance under the skin to insure the necessary tension without a sacrifice of tissue. We can always regulate the contraction by allowing the sutures to remain *in situ* a shorter or longer time.

I do not refer to entropion of the lower lid. The tarsal cartilage there is so narrow that it can offer no resistance to a conjunctival contraction, and as cicatrization progresses the cartilage merely turns on its axis with no incurvation.

The removal of a piece of the skin of the lid of the proper size and shape, or the passage of sutures under it, and allowing them to ulcerate, will remedy the evil.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—CLINICAL LECTURE ON THE SIGNIFICANCE OF UTERINE AND VAGINAL DISCHARGES. By ROBERT BARNES, M. D., Obstetric Physician to St. Thomas's Hospital, etc., etc.

Discharges of Air.—Air may get into the vagina, if not into the uterus, in the non-pregnant state. In the normal condition the walls of the vagina are maintained in perfect contact, and no air, or probably very little, is admitted. But where the parts are greatly relaxed, the vulva open as when the perineum is torn, the lower part of the vagina is no doubt exposed to the contact of air. But the very condition of patency prevents the retention of the air to such a degree as to lead to its escape in perceptible volume. Air also penetrates where too large a pessary is worn, which keeps the vaginal wall apart. But under peculiar circumstances air enters in large quantity, to be expelled with noise. Dr. George Harley details* a curious case

* Obstetrical Transactions, 1863.

in which he carried out decisive experiments to prove the correctness of the diagnosis. A pluripara frequently expelled air from the vagina with a loud noise. It was ascertained that no connection existed between the rectum and vagina. Dr. Harley took a full-sized male catheter, to which was attached a long, India-rubber tube with a stopcock at the other end. The catheter was introduced into the uterus, the end of the tube with the stopcock being placed in a tumblerful of water. No air escaped when the instrument was in this position; but, upon placing the open end of the catheter in the vagina, an instantaneous discharge of gas took place. The water was found to be sucked up through the tube into the vagina. It was found that the vagina sucked in and expelled the air by spasmodic action. It was further observed that the abdominal muscles assisted in the suction process. The uterus was completely retroverted. This displacement being remedied, and the patient's health improved by tonics, a cure ensued.

If you observe the vagina when the duck-bill speculum is applied, you will see the movements of rise and fall under the influence of the rise and fall of the diaphragm. Dr. Adolph Rasch has investigated* the phenomenon with great care. He says if a multipara whose genitals are normal be placed on her back, with the thighs flexed and abducted, and the vaginal orifice closed, movements caused by respiration are seen, but no air enters. In the lateral position the same thing is observed even if the vagina is lax, and even when the perineum is ruptured. When the patient is placed in the prone position, or on all-fours, if the vulva be open, air will enter, because the intestines falling downwards by gravity cause a vacuüm. Under this condition violent exertion may expel air, giving rise to vaginal flatus. If the abdomen be supported by the hands or by a bandage, no air enters.

There are several interesting applications of this knowledge. It teaches that the best position after labor, if not during labor

* Obstetrical Transactions, 1870.

also, is the dorsal; that the same position is also best in the case of pelvic abscess or hæmatocele discharging into the vagina; and that we must carefully consider this respiratory rise and fall of the vagina when selecting pessaries. It is by turning to account this action that we derive the greatest advantage from the spoon or Sims's speculum. The blade drawing the perineum well back, whilst the semi-prone position of the patient favors the falling forwards of the abdominal viscera, air fills the vagina, counteracts the effect of inspiration, and thus enables us to get a good view of the os uteri. The same position also greatly aids our efforts at reducing inversion of the uterus, and in replacing a prolapsed umbilical cord.

In most operations, however, upon the uterus and vagina, where it is of importance to bring the uterus as low down near the vulva as possible, the dorsal position, by bringing the force of gravity to counteract the respiratory rise of the uterus, which can further be greatly aided by direct pressure by an assistant's hand above the symphysis pubis, is the best.

If we were to follow out in detail all the indications supplied by the examination of the discharges, we should be led through almost the entire range of uterine and vaginal pathology. This, in fact, is simply the converse proposition to one already stated—namely, that almost every uterine or vaginal disease is attended by discharge. But to adopt the discharges as our point of departure, from which to proceed to study and classify the diseases of which they are consequences, would be a most intricate course, and not the most orderly or profitable. I will, therefore, not pursue this method further than to give one instance of how we may apply it to clinical analysis. We will at our next meeting take hæmorrhage, and sketch what its purport is.

The Watery Discharges.—When these occur, you must, first of all, determine the presence or absence of pregnancy. It is no uncommon thing that discharges of water, more or less profuse, take place in pregnant women. This is the hydrorrhœa gravidarum. Gushes of water, quite clear, may occur almost at any time during pregnancy; but they are more frequent in

the latter months, and especially in the last month. Happening at this time, they are commonly taken as an indication of commencing labor, and many are the false alarms which patient and doctor have to suffer from this cause. "The waters have broke," says the nurse. You go, as in duty bound, and find probably the os uteri closed, nothing resembling active labor-pains. What are you to do? If you wait for labor, you may wait for a week, or two or three weeks. If, on examination by ballottement, you find the child still floats in the uterus, the os uteri not open, and no active pains, you may go home and wait in peace for another summons.

What is the source and nature of this hydrorrhœa gravidarum? Several theories have been expounded. The character of the fluid differs in some respects from that of liquor amnii. It is odorless, and resembles blood-serum, or the serous fluid effused in the peritoneal sac. Ruysch and Rœderer thought it came from ruptures of lymphatic vessels, or of hydatids of the uterus. Bohmer thought it escaped from a second abortive ovum; Delamotte and Cruveilhier that it came from a cyst near the ovum: Deleurye, Puzos, Naegele, and Dubois, that it came from the inner surface of the uterus, being secreted externally to the ovum. Dubois says it is the result of loosening of the membranes from the uterus when the vessels pour out serum. Hegar says the source is the uterine glands of the decidua. Thus he describes* the glands of the mucous membrane as being found in the decidua at the sixth month of gestation, and argues that their sudden disappearance in the subsequent months is improbable. In a case of hydrorrhœa he found in the decidua vera, at the beginning of the eighth month, an enormously developed glandular body. At the bottom of this morbid growth was a general hypertrophic condition of the decidua and its glands. These gave out the excessive secretions.

In a case related by Dr. Graef,† repeated discharges took place, and the fœtus was expelled at the end of six months.

* Monatsschrift fur Geburtskunde, 1863.

† Jenaische Zeitschrift, 1865.

The membranes were very delicate, and openings were found in them. In this case, it is probable that the fluid was true liquor amnii. In another case the patient suffered during the last three months from repeated watery discharges; the uterus rising and falling with the gathering and escape of the fluid. The membranes were found without rent. Graef regarded this as a case of catarrhal hydrorrhœa.

I believe there are various sources. In some cases the fluid is liquor amnii. This may come either from rupture of the membranes; from rapid transudation under pressure, from rapid formation and accumulation of liquor amnii in the amnion, or from the bursting of a cyst formed between the amnion and chorion, or between two layers of chorion, the proper amniotic sac remaining intact. In the majority of cases, however, the fluid is not amniotic; for when once the amniotic sac has fairly ruptured, labor is not far off. It is, then, the result of a rapid secretion from the uterine glands, or from the cervical cavity. In the early months, whilst there is still a free space between the decidua vera and the decidua reflexa, there is a large area of glandular surfaces.

I have observed a *puerperal form of hydrorrhœa*. Thus, watery discharges may continue for a month or longer beyond the proper lochial flow. Generally in these cases the water is dirty, discolored, occasionally stained with blood, and offensive. The most common cause I have found to be the retention of a portion of placenta, or of clots in the uterus; but a polypus may produce like results. The watery discharges alternate, but not always, with discharges of blood. The fluid may, under certain conditions, collect in considerable quantity in the uterus, so that the organ becomes greatly distended before the collection is expelled in a gush.

Sometimes watery fluid is mingled with air, constituting *physo-hydrometra*. This is also a puerperal or post-puerperal condition, and is commonly the result of retention of some portion of placenta or membranes, and the admission of air into the uterine cavity. If an examination is made when the ute-

rus is relaxed after labor, especially if the hand be introduced into the uterus, the vaginal walls are separated from their usual contact, and a channel is formed along which air easily enters. Merely turning on the side, or a little more prone, will often, by favoring the fall of the uterus forwards, produce a vacuüm into which air will rush. This is one of the reasons, amongst others, why I am unable to approve of the abolition of the old-fashioned binder, which some people would condemn for no better reason that I can see than because it is old-fashioned. After labor, especially in pluriparæ, the abdominal walls are so relaxed that they can give no support to the uterus. The binder does temporary duty for the inert abdominal walls.

The history of physo-hydrometra is, I believe, this: A portion of placenta, membranes, or clots remains in the cavity of the uterus after labor; some air gets in as I have described; decomposition ensues, and the gases of putrefaction are added to the air from without, whilst the os uteri is occluded by the placenta or blood-mass falling over it. When this occurs, there is invariably hectic or irritative fever; peritonitis and septicæmia commonly attend; great abdominal pain; the enlarged, distended uterus can be mapped out rising as high as or higher than the umbilicus; and resonance is made out on percussion.

One condition, the result of impregnation, often leads to copious and repeated discharges of watery fluid; the *hydatidi-form degeneration of the chorion*. In this case the ordinary signs of pregnancy may not be present, and even the patient herself may not think she is pregnant. There is, however, always evidence of enlargement of the uterus, and generally great pelvic distress. The water escapes in gushes at uncertain times; it is often tinged with blood, resembling red-currant water; it has not the offensive odor belonging to the watery discharges of cancer; sometimes, but not often until late in the progress of the case, cysts will be found swimming in the water; it is generally expelled with painful uterine contractions.

In a case we recently had in Adelaide ward, the nature of the

disease was not at first suspected. There was some abdominal enlargement, retention of urine requiring the catheter, and most distressing pelvic pain with irritative fever. The os uteri was found high up above the symphysis pubis, whilst behind it the pelvic cavity was filled with a large, rounded, firm mass, taken to be either the retroverted gravid womb, or a fibroid tumor. One day a large quantity of water, blood, and a mass of chorion cysts were expelled. We had, in fact, the condition of retroverted gravid womb complicated with hydatidi-form or cystic degeneration of the chorion.

Apart from pregnancy, watery discharges are often of grave significance. During and after the climacteric period, the most frequent cause is some form of malignant disease, especially the so-called cauliflower excrescence of the uterus. In this case other symptoms will probably point to the seat and nature of the disease. The fluid discharged is seldom clear; it is generally turbid, dirty, often tinged with blood, resembling water in which flesh has macerated; it contains shreds of flocculi of solid matter, the proceeds of superficial erosion or necrosis of the surface of the diseased growth, and is almost always of a peculiar offensive odor. It often alternates with hæmorrhage. Local exploration will place the nature of the case beyond doubt. Another form of malignant disease giving rise to watery discharges is the "oozing excrescence of the labia."

But we must remember that similar discharges may take place from polypus or inversion of the uterus. Hence we have another example of the wisdom of not pronouncing a diagnosis until we have made an internal examination. Water may escape in large quantity from the rupture or perforation of an ovarian cyst into the vagina. In such a case the rapid concurrent diminution of the abdominal tumor will lead to the right conclusion.—*London Lancet.*

ART. II.—HYDROPHOBIA: A Lecture Delivered at the Medical College of the Pacific, California. By Prof. JOHN C. DALTON, of New York. [Reported by HENRY GIBBONS, Jr., M. D.]

The study of hydrophobia is invested with unusual interest from several circumstances. First, from its communicability; second, from its extraordinary, probably universal fatality, there being no authentic case of recovery; and lastly, from the terrible character of its symptoms.

It is an extremely rare disease. Many practitioners have never seen a case; and yet it does recur with tolerable regularity. During the six years from 1863 to 1867, inclusive, a hundred and seven cases occurred in France. Taking the average population of that country at thirty-six millions, this would give one case every two years for each million of inhabitants. But the disease prevails to a greater extent in cities, for obvious reasons. The denser population of the city brings the rabid animal in almost certain contact with many persons, while in the country he may die before meeting any one to bite. Again, the statistics of cities are more accurate. In the Department of the Seine, including Paris, the population averaging one million, there was, for the twenty years from 1842 to 1862, an average of two and one-third cases each year. In New York, for the six years from 1866 to 1871, there were twenty-two cases, an average of two and two-thirds each year. Taking all these statistics together, we judge that we have, generally speaking, three cases of hydrophobia a year to every million of people.

Another point of great interest is the frequency with which hydrophobia follows the bite of the animal. In the neighborhood of Paris is the Veterinary School of Alfort, where this subject has been fully investigated. It was found that of dogs bitten by rabid dogs, but one in three becomes rabid. In the human race the proportions is much less. John Hunter estimated it at only one in twenty-one. This has been considered far too low; but it has received singular confirmation in the investigations made at the veterinary school at Alfort. In the

Department of the Seine, a hundred cases of hydrophobia in dogs occur annually. It was found that of twenty-five of these ten only bit persons, and these ten bit fifteen persons. At this same rate the hundred dogs would have bitten sixty persons. But we have already seen that only between two and three cases of hydrophobia in man occur annually, hence we arrive at almost the same result as Hunter.

The less susceptibility of man to hydrophobia is owing to a variety of causes. Man is undoubtedly less susceptible to the poison. Besides, there are a great many physical causes operating. It is not the bite, but the saliva that poisons. If a man be bitten, it is through the clothing, or the boot, and the saliva is wiped off, or should the saliva touch the wound, it is often removed by the action of the person, by squeezing or washing or rubbing the wound, or if there be much bleeding, the blood may wash away the poison before it has had time to be absorbed. But if absorption have taken place, it is absolutely certain to produce death.

Now in regard to the signs which follow a bite. There are no immediate signs. The mad dog does not display any ferocity. It may be a chance bite, a snapping of the jaws without the intention of biting, that brings the poison in contact with the raw surface. Indeed, the dog may not bite at all, but the saliva touch a wound or abrasion or sore already existing. The bite is generally not large, and heals well. Then comes the period of incubation, such as occurs in small-pox, measles, and scarlatina. The person is inoculated, but the poison is not yet diffused over the system. This period of incubation varies. It is rarely less than a month; it is often delayed to two or three, and may extend to the end of the sixth month; and there have been cases in which the disease has not exhibited itself until a year has elapsed. There are stories of longer periods, even to eight years; but these are incredible, particularly as during that time there are so many chances that another bite may have been received. There are then no symptoms for a month. Each succeeding week of exemption after the month has elapsed diminishes the liability. At three months the patient is proba-

bly safe; at six months almost certainly so; but what weeks of extreme anxiety must he experience before the danger is past!

If hydrophobia is about to occur, there is generally slight irritation about the wound; an itching, possibly swelling, with red lines extending therefrom; but this is not always the case. Next follows stiffness of the neck; then febrile action, with loss of appetite, succeeded by difficulty in moving the jaw and difficult deglutition; then occurs a most remarkable symptom—a vague and unaccountable anxiety, not of any special thing, and quite unexplainable. After from six to twelve hours, this amounts to delirium. Finally hallucinations occur, and the friends are obliged to restrain the patient by force. The necessity for restraint has given rise to the popular idea that hydrophobia induces a tendency to attack persons. It is, however, entirely erroneous. Another symptom has given rise to the popular impression that there is a great dread of water; hence, indeed, the name of the disease. But this is equally erroneous. There is great difficulty in swallowing, whether water or other things. An attempt to do so brings on convulsive constriction of the glottis, accompanied by great pain and distress, which any one who has inhaled chlorine in the laboratory has experienced. In this respect hydrophobia is very similar to tetanus. In that disease, a breath of air, the moving of the bed clothing, or some such slight circumstance, will cause sudden reflex convulsions of opisthotonos. So with swallowing in hydrophobia. After repeated trials, so painful, he gives up in despair; he throws the water from him and will not again attempt to swallow. When this condition is reached the patient has not long to live. He dies of extreme nervous depression and exhaustion generally in forty-eight hours, though he may live three days.

What treatment can be instituted in these cases? Of course you will think of opium, of chloroform, and other narcotics. They are useless. There is only one thing to be done, and that at the very first: Cauterize. Some have recommended to cut out the wound first, and then cauterize. I do not see the use of

this. We cannot tell the depth of the wound. We cannot be sure of preventing the knife from cutting into the bitten portion, in which event every movement of it would carry the poison further. Use the caustic freely. Lunar caustic is the best, being more readily obtainable than any other; and its stick form renders it easy of application. Apply it thoroughly until every portion of the wound has lost its sensibility. Generally speaking, if this is done early enough, it is efficacious.

But there is something of a great deal more importance than this. Barbarous as it may appear, it is not so important to save life as it is to prevent a dog with hydrophobia from being at large, with the probability of his biting.

Although the proportion of those who have hydrophobia to those bitten is so small, I do not know that the majority of those bitten would not prefer speedy death to the terrible anxiety of uncertainty. But how shall biting be prevented? Only know that the dog is mad. Fatal bites result because the disease is not recognized. To distinguish hydrophobia in the dog is vastly more important than to distinguish it in man, and there are signs by which it may be distinguished before the tendency to bite is exhibited.

Now of the signs of hydrophobia in the dog. I presume that ninety-nine of every hundred, perhaps nine hundred and ninety-nine of every thousand, think that dogs get mad only in hot weather (never in cold), and that they have a horror of water. This is not true. The disease is no more prevalent in hot than in cold weather. Dogs have no horror of water, but being feverish, drink frequently. The symptoms in the dog have been fully studied at Alfort. He first gives evidence of being sick, loses his appetite, refuses food, skulks out of sight, avoids his companions and playfellows, and hides in dark corners. Now, as hydrophobia is so dangerous a disease, a dog showing signs of sickness should be watched. Whatever the nature of the sickness may be, however, a dog will always act in this way. These symptoms are not pathognomonic. But there is another symptom which, if it occur in connection with

these, is very suggestive. It is a peculiar agitation. The dog with hydrophobia does not lie in one corner ten minutes altogether. He is not satisfied to remain in one locality. Should his master call him, he goes to him, but quickly returns to a corner. If he has a kennel, he runs into it. He piles the straw up in the middle of the kennel and lies upon it. In a few moments more he jumps up and pushes all the straw out on the ground. These are extremely suspicious circumstances, and call for careful confinement of the dog.

Next, the dog has hallucinations. All at once in changing his position he stops, pricks up his ears, and seems to hear something. This is but momentary. Again, he appears to hear some other dog on the opposite side of a wall or door, and scratches to get to him. He snaps at imaginary flies. Now is surely the time to place him in confinement. Up to this period he has shown no disposition to bite. It must be borne in mind that when sick, the natural disposition of the dog remains. If he be naturally excitable and aggressive, he will be more apt to bite. He will be more apt to bite a stranger or beggar than one of the family, or his master. Indeed, he will not bite his master, unless driven too far. He will even come, though reluctantly, at his master's call, and will perhaps receive a whip or two before his unusual excitability overcomes his habitual control and induces him to bite. All this time the hydrophobiac dog will drink. He will take more water than usual; his apparent repugnance to it never being so strong as in the human subject.

The next symptom is a depraved and unnatural appetite, exhibited by biting furniture, gnawing curtains or the carpet, swallowing bits of wood, coal, brick, even his own dung. This adds much to the belief that he has hydrophobia. All know that some pet dogs have a habit of gnawing books, but hydrophobiac dogs, having no such habits, do the same, and, besides, swallow what they gnaw off.

We have, then, agitation and extreme restlessness, hallucinations, and depraved appetite, as symptoms of the approach of

the dangerous stage of hydrophobia. The following incident will illustrate the importance of distinguishing the disease at this early stage, and the value of these symptoms: Two ladies, with the little daughter of one of them, lived together. They had a little pet dog, which became ill, and hiring a carriage they drove out to Alfort to consult the veterinary surgeon. It was after visiting hours, and not being able to see him, they returned the next day. The surgeon was now able to decide at once, from their account, that the dog had hydrophobia. He learned that the dog had developed a disposition to tear the curtains, and had not slept during the whole night, but was heard pattering over the floor. Unfortunately, in the interval between the two visits, he had bitten the little girl.

When a member of a family is supposed to have been bitten by a rabid dog, it is the habit to kill the dog at once. This is all wrong. The only means of deciding whether the supposition is correct is thus destroyed. It is well known that the house-dog is prone to epilepsy. If in the paroxysm he may have accidentally bitten or appeared to snap at some one, let him be confined and watched for a few days.

The fourth symptom is a peculiar bark. I have never heard it. It does not always occur, but when it does exist, is considered a very valuable symptom. It is very difficult to describe, but is spoken of as loud, quick bark, followed by a series of diminishing howls.

The fifth symptom is insalivation, in regard to which a misconception has arisen. There is no great abundance of saliva, but it is peculiar in quality. It is very viscid, and hangs down in strings from the mouth, giving to the human and the dog the appearance of peculiar and unaccountable distress. The dog appears to be annoyed beyond expression, and makes every effort to remove the viscid strings of saliva with his paws. These efforts have occasionally given rise to the idea that a bone or piece of wood is lodged in the teeth or throat, and in one instance a veterinary surgeon, in making an examination, was bitten.

Now the aggressive disposition begins to show itself. The insane desire to bite is first excited by animals of its own species. Next, the dog attacks man, but even now discriminates in favor of its master and friends. A stranger or some one coming to the door is attacked. Now that the disease is fully established, the dog disappears from home, probably with the idea of seeking a deserted place and withdrawing from observation. But new and greater sources of irritation meet him at every step. The noise of carts and horses and people increases his excitability. If he should escape death and succeed in reaching the fields, he reels along from side to side, snapping at anything and nothing, until finally paralysis occurs, and he lies on the side of the road, to die in a few hours, if not sooner killed by his pursuers. Sometimes, finding no rest or escape, he goes back to his master's house. But he has undergone an extraordinary change in appearance. He is draggled and dusty and exhausted. Ignorant of his true condition, some of the household pity him, and no sooner touch him than they receive the fatal bite.—*Pacific Med. and Surg. Journal.*

Art. III.—Treatment of Spermatorrhœa.

The occasional introduction of a catheter as large as the urethra will take, is often of the greatest service; it should be passed into the bladder and allowed to remain for five or ten minutes, according to the tolerance of the patient; its mechanical pressure helps to unload the congested capillaries and small vessels of the urethra; its contact deadens and destroys the extreme sensibility of the urethral nerves, and renders them less susceptible to the influence of slight excitants; whilst, by stimulating the muscles, it provokes their contraction, and so renders material assistance in emptying the larger veins. A silver catheter is the best instrument for the purpose, as it exerts firmer pressure than an elastic bougie; and, as the urine can be drawn off through it, the patient will not require to micturate for several hours, which is a point of some importance, as

the urethra is often very tender after the passage of an instrument for the first few times. The frequency with which it should be employed, depends upon the amount of discomfort its presence occasions; and, if the pain be great, it should not be left in more than a few seconds, lest rigors, swelled testicles, etc., be occasioned. Sometimes the urethra is *extremely* sensitive, and much pain attends the use of the catheter; but this is an additional reason for persisting with it, though a smaller one may be employed at first so as to cause less pain. I have sometimes found that smearing the catheter with blue or calomel ointment, or with half a grain to a grain of nitrate of silver rubbed down in an ounce of lard, to be of use in obstinate cases; but I prefer the blue ointment to any thing I have yet tried. Some camphor, extract of opium, belladonna, etc., may be combined with these ointments, if thought desirable. Care should be taken that these applications do not reach much beyond the curve of the instrument, and it should be thoroughly oiled before using it. The oversecretion of mucus is always checked by the use of the catheter, whether armed with ointment or not.

Cold bathing, cold douches, etc., should not be employed on going to bed. The ordinary bath in the morning does good; but cold applications at night should be forbidden, as the reäction which follows them will increase the local circulation, and so cause congestion and erection of the penis, and thus increase the probability of emissions.

Not only must the position assumed in sleep be attended to, but undue warmth in bed avoided, whether by using very soft beds or too large an amount of clothing. The bowels should be carefully regulated, to prevent any accumulation in the rectum; and the urine examined from time to time, so as to detect an excess of uric acid, the presence of oxalates, etc., which may render its passage irritating to the hypersensitive urethra. Overdistension of the bladder must, at all times, be guarded against, and the patient warned to pass urine on waking in the morning, lest he doze off again with a full bladder, which is

one of the most certain provocations of erection and emissions.

Before commencing to treat this affection constitutionally, it is generally necessary to allay the digestive disturbances, which are so common and often so severe, by giving such remedies as may be applicable to the condition of the patient, either with or without the more special medicines. By neglecting to do so, we not only add to the dyspeptic troubles and obtain no benefit from the drugs given, but a valuable medicine may do harm and be brought into disrepute, in consequence of its being administered at a time when the stomach cannot tolerate it.

Internally, I have found astringents of more use in this disorder than tonics; or they may be combined. Gallic acid, the dilute mineral acids, especially the sulphuric, may be given. Tincture of matico will often be of service, and more so, in my experience, than any other plant rich in tannin, as it appears to act upon the genito-urinary tract, rather than upon the bowels, as is often the case with the others.

Ergot is one of the most valuable remedies for this affection, and the liquid extracts of the *Pharmacopœia* is a very efficient and convenient form for giving it; whilst the dilute sulphuric acid can be added, if thought advisable.

When the urethra is very sensitive, and the passage of urine painful, small doses of copaiba are often most comforting; or the other oleoresins may be tried if it disagree; but none of them, in my opinion, is equal in value to copaiba when it can be borne.

I am not disposed to regard strychnine in these cases with very great favor; when there is much irritability of the nerves, I believe it often adds to this; but when this is subsiding it may be of use as a tonic; so may quinine or iron, but in no other way. I have never given the tincture of iron in the enormous doses (from one to two drachms three times daily) recommended by some, and so I cannot speak personally of its value in such large quantity.

Cantharides, phosphorus (except the dilute phosphoric acid), and the so-called aphrodisiacs, do harm by acting as stimulants

to the nervous system generally, and therefore to the local nerves. Cantharides, also, by its action upon the bladder, is, especially when given in large doses, a very injurious drug in these cases. For the same reasons I disapprove of local blistering; while the sore left by the blister acts, moreover, as a source of irritation, and adds to the liability of emissions.

Belladonna, in my hands, has proved to be an uncertain remedy; in some cases it has appeared to do good by allaying irritation, whilst in others there were no beneficial results from it. The dryness of the throat, disturbance of vision and diarrhœa, which are often caused by it, constitute an objection to its employment in full doses, and without them its value is very questionable.

Camphor is a most useful drug; three or four grains made up into two pills, with half a grain or a grain of opium and one or two of aloes, have more frequently allayed irritability and prevented emissions, than anything I have yet tried. Opium alone does not succeed as well, and a larger dose is necessary, so that the untoward symptoms sometimes produced by it are more likely to be incurred.

I have tried chloral in a few cases, and with very great advantage, in doses of fifteen or twenty grains at bed-time, it has answered its purpose admirably.

Bromide of potassium, in thirty or forty-grain doses, will sometimes be of service; but it seems to me a less certain remedy than chloral, which I am disposed to regard as one of the valuable agents we possess for these cases, though as yet my experience of it is limited.

Suppositories vary much in their action whatever drugs they may contain. Occasionally they answer well, but often they do not lessen, and I am not sure they do not sometimes increase, the irritability of the parts.

Galvanism I have not employed myself; but in the few instances where I have known of its being tried by others, it has seemed to me to do more harm than good, by adding to the nervous irritation.

Lastly, as to cauterization by the *porte-caustique*, I need scarcely say that I am strongly opposed to this method of treatment; for, if my view of this disorder be correct, this instrument can relieve it in no other way than as the passage of the catheter does. I do not believe that ulceration or other morbid conditions of the ejaculatory ducts are the causes of seminal losses. We have no evidence that these pathological conditions exist except, it may be, in very rare instances; and, if so, the application of nitrate of silver to the prostatic mucous membrane in every case of nocturnal emission must be unnecessary; and in spite of its alleged harmlessness, I consider it to be a dangerous treatment. I have known two persons die from the effects of the *porte-caustique*, and I have seen others suffer severely from its employment. This may not be the usual result; but I do say that the application of nitrate of silver to the urethra, whether in stick or in strong solution, is at least a very sharp remedy, and will often produce violent inflammation, and sometimes lay the foundation of a stricture or of a chronic irritation of the bladder.

If, then, caustic be applied on an incorrect surmise as to the condition of, and its effects upon, the prostatic mucous membrane and ejaculatory ducts, it is not only an unnecessary, but, in my opinion, an unsafe method of treatment.—*Glasgow—British Med. Journal.*

ART. IV.—OVARIOTOMY—TREATING THE PEDICLE WITHOUT CLAMP, LIGATURE, OR CAUTERY. [Being a Paper read at the Meeting of the Medical Society of the State of New York, February, 1872.] By JULIUS F. MINER, M. D., Buffalo, N. Y.

Gentlemen,—During the past few years I have been led to make some observations as to the anatomical characters of ovarian disease, and to base upon those observations, and a few clinical facts which have come to my notice, the conviction that ovarian tumors—cystic disease of the ovary—can be removed by *enucleation*, without ligature, clamp, or cautery. All other steps in ovariotomy have been very well settled; this one alone,

of how to treat the pedicle, remaining subject to the caprice of the operator, directed by no well-defined rule or law. Without attempting to enumerate the objections which may be fairly urged against all previous plans of procedure, allow me to describe a *new method*, which, I am now led to believe, will in all, or nearly all, cases be found feasible, and, if so, is in every respect satisfactory.

My first observation and experience in this procedure occurred in April, 1869, and the case was reported in detail in the "Buffalo Medical and Surgical Journal" for June of the same year. It was described as follows: "A few months since, I was invited to remove an immense ovarian tumor, occurring in the person of Mrs. Foster, of Cattaraugus county, N. Y. It was of a year's standing, had been repeatedly tapped, but at length the contents proved to be too thick to be drawn through the largest sized canula; and the distress becoming too great for endurance, any operation which would end it, whatever might be the result, was gladly accepted. The tumor was multilocular, very large, weighing as near as could be determined, nearly one hundred pounds. It was attached throughout its entire circumference to the omentum, intestines, walls of the abdomen, and all other parts with which it came in contact. These attachments were not so firm but that they could be broken up, and with great care the tumor was separated from the surrounding parts until the pedicle was reached. The process of enucleation had been carried on so successfully and so extensively that encouragement was afforded for continued trial; the pedicle was large, and extended over a large surface, but by careful and patient effort it was separated from its entire attachment to the tumor, and the immense growth removed without the ligation of a single vessel. The terminal branches of the vessels of the pedicle gave out no more blood than issued from the vessels of the attachment elsewhere, and there appeared no more occasion for ligature here than elsewhere. All hæmorrhage soon ceased, and the incision was closed by interrupted sutures."

The success of this procedure was complete, and the patient

continued for more than two weeks to improve without an untoward symptom—so long that her recovery seemed certain. She now commenced to lose her relish for food, grew weak and desponding, and died from exhaustion on the twenty-first day after the operation. The fatal termination detracted nothing from the success of this mode of treating the pedicle; indeed, so remarkable was the size and attachment of the tumor, that any attempt at recovery is surprising, and yet the feeble, emaciated, exhausted patient continued to live long enough to show that the manner of treating the pedicle was at least in her case unobjectionable.

My second opportunity to test the feasibility and safety of the plan I had suggested presented itself in the Buffalo General Hospital, in December of the same year, in a German woman sixty-six years old, of feeble and delicate appearance, and considerably emaciated. The operation was made in presence of the students of the Buffalo Medical College, and I was assisted by my colleagues both of the College Faculty and hospital staff.

This tumor was found also extensively attached to the walls of the abdomen, and the process of separation was conducted as before, the bands of attachment being separated from the fibrous cyst of the tumor, not torn or broken. On reaching the pedicle it was found large, its principal arteries throbbing distinctly. It was separated readily by enucleation, commencing at its central attachment, and following out the fasciculi of vessels to their final termination upon the walls of the tumor. Upon removal, it was found to weigh seventy-one pounds, and to be composed of numerous cysts. The bands of the vessels composing the pedicle, when separated from the tumor, contracted so as to leave the pedicle appearing almost as if it had been divided with the knife. To the surprise of my associates, scarcely any hæmorrhage followed the separation, much less than attended the separation of the bands of attachment elsewhere. This patient was narcotized by subcutaneous injection of morphine given by my Hospital Assistant. She died eighteen hours after the operation. Post-mortem examination showed

no hæmorrhage or other explanation, and we inferred that death was from overdose of morphine.

My friend and colleague, Prof. James P. White, of Buffalo, has since made successful trial of this plan of operation—that is, successful so far as removal by enucleation without hæmorrhage is concerned. He informs me that there was less hæmorrhage from the pedicle than from other places of attachment; and that, though he finally applied ligature, he did not do it from necessity, but rather from fear of its occurrence after reäction should take place. Other similar cases might be related, but I prefer to refer briefly to the experience of others, in confirmation of my own observations. Richard H. Meade, Esq., Consulting Surgeon to the Bradford Infirmary, England, thus speaks upon the subject:

"The patient being under the influence of chloroform, I made an incision about four inches long in the lower part of the linea alba, carefully opened the peritoneum, and evacuated nearly two gallons of ascitic fluid. On enlarging the opening in the peritoneum to the same extent as the external wound, the ovarian tumor at once came into view. I now directed an assistant to compress the abdominal walls with his hands, one placed on each side, so as to compress the edges of the wound backwards, while I endeavored with my hands to draw the tumor partially through the opening. In doing this, the walls of several of the small cysts, of which the tumor was principally composed (being very thin), were ruptured by the pressure of my fingers, and a considerable quantity of thick, brown fluid, like dark-colored linseed tea, escaped. The edges of the wound were so well compressed that none of this ovarian fluid was allowed to enter the peritoneal cavity. The tumor was now found to be firmly adherent to the free extremity of the great omentum; these adhesions were carefully and slowly torn through, and the whole mass was then easily drawn through the wound. It was now found to contain a good deal of heavy, solid matter, and, on turning it over to examine its attachments, the pedicle, which was small and thin, to my dismay and an-

noyance at the time gave way, and the tumor tore itself loose from its connections. Fearing hæmorrhage, I kept hold of the remains of the pedicle, but very little bleeding followed, and I could find no vessel requiring ligature.

"It is difficult to account for the large quantity of ascitic fluid which was met with, unless there were some secondary deposits of cancerous matter on the peritoneum, but the history of the case would hardly lead to that supposition. The presence of a considerable amount of serous effusion in the peritoneal cavity has, however, one advantage in cases of ovariotomy—it seems to render the membrane less likely to take on acute inflammation, its delicate secreting surface having undergone some change, and after the removal of the ovarian disease it does not seem to be re-secreted.

"In some of the medical journals a case of ovariotomy has been reported (extracted from an American periodical), in which Dr. Julius F. Miner removed a very large ovarian tumor by enucleation, without either clamp, ligature, or cautery, and without hæmorrhage. When I commenced the above operation I had no idea of imitating his proceeding, but when the tumor (to my horror at the time) enucleated itself, and there appeared to be no bleeding from the pedicle, I determined to follow his example, and leave the torn surface unsecured, thinking that the risk from hæmorrhage was less than that from inflammation from the presence of a foreign body in the peritoneal cavity. My case turned out successfully, and I think I should venture to repeat the proceeding in some special cases—for instance, where the pedicle does not appear to be vascular—when the attempt might be made to tear the tumor gently from its connections (in the same way as adhesions are generally separated), but a firm hold should be kept of the pedicle, so that it might easily be secured in case of bleeding."—*British Med. Journal. Brithwaite's Retrospect* for July, 1871.

Upon these facts I based the conclusion that the pedicle in ovariotomy can be safely separated from the cyst, and left without ligature, clamp, or cautery, thus avoiding many dangers at-

tending it. At first this proposition will appear startling to surgeons who have tied large vessels in the operation, or have witnessed the fearful hæmorrhage which sometimes takes place from slipping of clamp or ligature; these will regard it with incredulity, and, perhaps, without trial look upon it as wholly impracticable. I should myself, probably, be among this number, had I not had opportunity to *demonstrate* to my own mind, certainly, its entire feasibility.

The ovarian tumor is composed of a firm, dense, fibrous cyst, containing fluid of varied color and composition. It may, and it may not, have a solid portion, but usually it does have more or less of a body, the remnant of an enlarged or degenerated gland. Upon the surface of this smooth, dense, fibrous cyst are spread out the vascular and cellular tissues which compose the pedicle, but only the terminal branches of the vessels enter this cyst; the vessels may be quite large at their origin, but soon they are numerously divided, and enter the cyst, if at all, of capillary size. The attachment of the pedicle to the cyst is more easily broken than any one would mistrust who has not attempted its separation in the manner described, and I am confident that the same efforts which are made to break up the adhesions to the peritoneum, omentum, and other parts, if extended to the pedicle, will be equally successful. The finger should be gently introduced under the central portion of the pedicle, and followed out along the fasciculi of vessels as they extend over the sides of the cyst; nothing can be more easy of execution.

If this method can be adopted without hæmorrhage or other difficulty, its advantages are apparent.

The pedicle can then be returned into the abdominal cavity without any of the objections which have been urged against this procedure. There is no ligature to be discharged by the ulcerated process, or to become encysted, or to induce inflammation. There are no purulent or inflammatory products to be in any way removed or provided for; the pedicle is wholly a living tissue, and has no irritative qualities which render its

return to the abdominal cavity objectionable. This cannot be said of it when treated by any other known method.

My object will be fully answered, provided the feasibility of enucleation in ovariotomy is shown with sufficient clearness to obtain trial by surgeons. It is now believed that all, or nearly all, cases will admit of it, or of this general plan at least, perhaps varied to suit circumstances; and that, where practicable, it is the least objectionable of all known methods. Prof. E. M. Moore, my colleague, has suggested that if after separation, as described, there is any slight or troublesome hæmorrhage, the different fasciculi, or the various parts which have extended over the walls of the cyst, may be braided, causing in that manner arrest of hæmorrhage upon the principle of acupressure. Again, provided this method in any case should fail, the plan of arresting hæmorrhage by acupressure or torsion, or separate ligation of any vessel which might seem to require it, with thread, silver wire, or other material, may yet be tried, may indeed be adopted as aid to the operation of enucleation.

The advantages of this procedure are sufficiently obvious to all surgeons of experience in this operation; and the feasibility of the method being granted, little else need be said to insure its universal adoption.—*Med. Record.*

ART. V.—ON THE GROWTH OF THE NAILS AS A PROGNOSTIC INDICATION IN CEREBRAL PARALYSIS. By S. WEIR MITCHELL, M. D. [Transactions of the College of Physicians of Philadelphia.]

During the last winter I saw Mrs. B., aged fifty-six, immediately after an attack of cerebral palsy. This lady had been previously in good health, and free from disease of the heart. In the evening, after dinner, while reading, she complained of headache, which increased during an hour, and was followed by sudden loss of power, complete in the left leg, and incomplete in the face and arm of the same side. There was no sensory

loss, and the articulation was but slightly altered. The only remote prodrome was pain at times in two limbs affected, but chiefly in the leg—a symptom which she ascribed to rheumatism, but which, whatever its cause, I have met with many times in persons afterwards afflicted with palsy on the same side. Without being confident of its value as a precursory symptom, I may state that in these patients there was often no rheumatic pain in the opposite side, or elsewhere.

Mrs. B. had but little intellectual disturbance, and no loss of consciousness. She slowly recovered, so as to be able to walk quite well; but the arm, after improving for two weeks, again became weaker, and finally, after some months, grew gradually well enough to be used in knitting or in holding a book. The finger-nails on the left side, which were previously healthy and rather large, became marked with deep serrations, crossing from side to side, and about one line apart. This peculiarity remained so long as she was under my care, the growth being much slower than that of the nails of the healthy arm. I regret that I did not examine the feet.

Struck by these peculiarities, I did not fail to study the nail-growth in the next case of like nature. In May, 1870, I saw a gentleman, aged forty-seven, the night of an attack of severe apoplexy. He was a large, ruddy person, and he also had no heart disease, but had been subject to great strain, both mental and physical. He had for a week slight defect of memory, great weariness, and occasional vertigo, with a hissing sound in the right ear, which was worse after meals. The attack came on while he was pulling off a boot at night. He fell, slightly convulsed and unconscious, and when I saw him he was able to lift the palsied hand with the other to direct my attention to it. His articulation was thick, his face strongly drawn to the left, and his tongue, when thrust out, deviated to the right side. The arm and leg were perfectly sensible, but he could stir neither of them. The leg recovered rapidly, and in a week he could walk a few steps, pushing a chair before him with the sound hand.

The morning after his attack I stained four of the nails of the palsied right hand, down to the lower edge, with nitric acid, which tints these parts of a deep and quite lasting yellow, hoping thus to learn whether they would grow as fast as those of the other hand. To my surprise, while the left healthy nails grew as usual, the right nails did not grow at all during three weeks. Then, and throughout while the arm was still motionless, the nails began to grow, as was shown by a narrow line of white below the tinted portions. Within a week after this the fingers became controllable by the will, and gradually the whole hand and then the arm was restored, so as to perform any except the most delicate tasks required of it.

October 16, I attended Mr. C., aged forty-six, who was suffering from great mental excitement concerning an election in which he was interested. His previous health was perfect. While lying in bed in the evening, somewhat drowsy from a small dose of morphia, he felt his right thumb drawn into the palm; then the forearm flexed strongly on the arm, while the right face twitched slightly, and in a few moments the right arm and leg became entirely paralyzed, as to motion only. There was no deviation of tongue or face, but he could not carry either eye fully to the right side. With these symptoms there was nearly complete aphasia, his only word being "yes." On the 17th he could make negative signs with his head, although still saying "yes," to every question. On the 18th he was able to say "yes," "no," and "certainly," and could repeat after me many simple words. October 20th; his right hand slightly œdematous, and he now for the first time moves his toes. His vocabulary is enlarging, but he makes the usual curious blunders, and when trying to read aloud, frequently stops at long words and miscalls them; says he understands what he hears and reads.

The temperature of the right palm was at this time 95 4-5°, left 97 2-5° F. Ever since the attack he complained of pain in the right shoulder, and of the occasional spasmodic flexion of the thumb and fingers. At this time, the fourth day, the

hand being moveless, I stained the nails, except that of the little finger, on both hands. Not the slightest growth took place on the palsied side until November 2d, when, seeing a line of white above the quick, I risked the prediction to his wife that in a week he would begin to move the limb. On the fourth day after the thumb recovered some slight power, and the rest of the limb rapidly followed it, so that every muscle was under control on November 9th, although for some time the extensors of the fingers moved with difficulty, because of the continued but lessening spasm of the flexors.

The whole history of these cases I have not given, thinking it enough to relate so much of them as is sufficient for my present purpose.

Perhaps, also, I ought to excuse myself for reporting but two distinct cases, in place of waiting until numerous opportunities enable me to be more sure of the constancy of the facts related. Cases of this kind, however, seen early, may not recur very often under my own eyes, and I shall probably increase the chance of studying this curious symptom by making it public.

Even now it suggests some reflections which I must be pardoned for intruding, because they will to some extent guide any future observer.

I have been unable to find that this observation has been made before. In old cerebral palsies the nails very often become deformed, and even the muscles may undergo changes which are possibly due to the neural sclerotic alterations which sometimes come on after the part has been long disused. They are then the direct result of isolation from the spinal trophic influence. In recent cerebral palsies there is often œdema, but no muscular atrophy; and it is, therefore, remarkable, that the nails should ever suffer in their nutrition. It is still more curious, when we reflect that even in parts whose nerves are severed, the nails grow as usual, and that chiefly in partial nerve-wounds do we meet with clubbing or serration.

It seems as if the injury to the brain must have exerted an inhibitory influence, and the fact aids, to my mind, the view

which I hold with many, that there are nutritive nerves. Theorists who follow Brown-Séquard, would probably regard the checked growth as due to spastic contraction of the vessels feeding the nail, and as a vaso-motor nerve impression.

I cannot admit this, because no conceivable amount of such spasm could last long enough or be complete enough to cause the result without making a visible difference in the tint of the nail and the thin parts at its matrix; and these remained much as usual, perhaps a little redder than common. To test this view, I faradized with a secondary current and dry wire brush two of the nails daily, giving great pain and intensely flushing them. They were also kept thrice a day, for half an hour, in hot water, so as to flush them as much as possible. My patient, an intelligent person, being much interested in the question, submitted readily to this treatment, but no more growth took place in these nails than in the others. I have noted the lower temperature in the last case; but in hands cut off from all nerve connection it is still slower, and yet the nails grow. It does look, therefore, in this case, as if some influence was at work here which did not act through a change in the vascular supplies. It is a point in favor of trophic nerves.

Other and most interesting questions also present themselves. The re-growth preceded the return of will power. If this should prove constant or common, it will certainly help us to answer the inevitable query as to whether the arm will recover at all, and how soon.

It is, of course, desirable to learn how often this check of nail growth occurs—whether in all cerebral palsies, or only in certain ones—whether, in a word, it relates itself to particular brain regions, and is a direct effect, or arises from a spinal shock which these brain injuries occasion.

I trust that I have been able to show, therefore, that this apparently trifling symptom may open the way to the solution of very important questions, and is certainly not devoid of interest for the most purely practical amongst us.—*Ex.*

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

Results of Revaccination in Five Hundred Cases.—Dr. J. Halton states that out of this number 179 had scars that were mostly circular, and did not seem to go deeper than the true skin; 106 had scars so slight that they had often to be carefully looked for; and 66 had deep scars of irregular form. In 24 there were no scar, though they stated they had been vaccinated; and 50 stated they had never been vaccinated. In 75 cases the state of the arm was not noted accurately. Of the 179 with circular scars, 10 presented perfect vaccine vesicles. All the others presented the vesicle in a modified form, as a blister, a tubercle, or a scab. There was usually considerable inflammatory redness. Of the 106 who presented slight puckered marks, 9 had on the eighth day perfect vaccine vesicles. The remainder presented irregular vesicles. Of the 66 who had deep scars, 6 showed the perfect vaccine vesicle. Of the 24 with no sign of vaccination, 16 presented the perfect vaccine vesicle, 2 the imperfect vesicle, and 6 failed to present themselves. Eighteen of all the cases failed on the first occasion of revaccination, but on the repetition of the operation it was in nearly all instances successful. In no instance did he succeed in obtaining an approach to a perfect vesicle in a vaccinated child under seven years old. The lymph was in all cases carefully selected, and perfect repose of the arm was enjoined. The conclusions which he thinks may be drawn from his experience are, first, that a large proportion of the population are utterly unprotected by vaccination; second, that vaccination scars, no matter how deep, are no guarantee that the possessor is protected by vaccination; third, that in some constitutions the vaccine influence wears out, as is clearly shown on revaccination, when a perfect vesicle will be produced; fourth, that the operation of revaccination, when properly performed with lymph taken from the *summit* of a vaccine vesicle *without areola* on

the eighth day from a healthy child, is entirely unattended with danger, and in the majority of cases with very slight inconvenience; fifth, that there are reasonable grounds for believing that revaccination is to a considerable extent at least an efficient protection against small-pox.—*Dublin Journal of Med. Science*, March 1, 1872.

*On Gonorrhœal or Urethral Rheumatism.** *By Thos. Bond, R.S., London, F.R.C.S., Surgeon to the Lock Infirmary of St. George's Union, Westminster.*—The pathology and treatment of some so-called rheumatic diseases of the joints have been much misunderstood, and particularly so gonorrhœal rheumatism, or, as I think it might more correctly be called, urethral rheumatism.

The disease is not, in my opinion, rheumatism at all in the proper application of the word, nor is it the effect of any specific poison or constitutional diathesis. It often occurs quite independently of the acute urethral inflammation called gonorrhœa, as well as of any gouty or rheumatic predisposition; but it is dependent on a local condition of the urethra which I shall presently describe. Nevertheless, I shall continue to use the name urethral rheumatism as being most convenient.

This affection is more frequent than is generally supposed, and occurs commonly in men of an anæmic and weakly condition, whose habits and occupations are sedentary and unhealthy, and particularly does it occur in those cases in which a gonorrhœa has been treated by a long course of antiphlogistic medicine, or by an excessive and indiscriminate use of copaiba.

In my experience, it very rarely occurs in florid and healthy men. Out of upwards of fifty cases of gonorrhœa among the well-to-do classes which I have treated within the last year, I have had one case only of urethral rheumatism; while in the Lock Infirmary of St. George's Union at Wesminster, where I treat over 300 cases of venereal disease yearly as in-patients, I

* Abstract of a paper read before the Medical Society of London, Nov. 6th, 1871.

find that a considerable number of the gonorrhœal cases among men, I may safely say ten per cent., are complicated with this disease. Those men are always the most anæmic, ill-fed, and wretched specimens of humanity possible to be seen; but it is a curious fact that the women of the same class are rarely affected by it. Again, the men are very rarely admitted for the gonorrhœa; they complain of rheumatism in the knees from cold, or say they have tender feet from over-walking. Lately I have made it a rule to examine the penis on such statements being made, and thus I have discovered many urethral discharges which would not otherwise have come under my notice; for often, when the discharge is perfectly evident and even profuse, they deny all knowledge of it, and in some cases I have no doubt they are ignorant of the local affection. The following is a typical case:

John H——, aged thirty-five, married, a pale anæmic man, admitted to the infirmary October 6th for chronic rheumatism, said he had been subject to rheumatism for some years, and that he had never had any venereal disease; had been married many years, and had children. Had much effusion in right knee-joint, complains of great pain in the heels and in balls of great toes when he walks, pain in elbows and shoulders on movement, and dull aching pains in all his limbs at night, and especially an acute pain in the back each morning. Skin dry and harsh, but complains of an exacerbation of sweating following the pain in the back. Has some congestion of the sclerotic vessels of the eye; denies that he had any discharge from the urethra. I examined, and found the lips stuck, and, on squeezing, a drop of perfectly transparent gleety fluid exuded. He then confessed that he had a sort of discharge fifteen years before, and that ever since he found the lips of the urethra glued when he made water. He said that he had been treated by many doctors and at several hospitals for rheumatism, but that his penis had never been examined before, and that nothing did him any permanent good. As an experiment I treated him with iodide of potassium, ten-grain doses, with lemon-juice and a full meat

diet. October 23d; no improvement either in the pain or effusion; general health worse, if anything. Commenced to use a tannin-and-opium injection to-day; to leave off all medicine, to continue full diet with a pint of porter daily. November 6th; pain and effusion nearly gone, the appetite good, and the rest unbroken. He has increased in weight, but the discharge is not entirely cured. I shall continue the treatment another month as he has had so many relapses.

In this affection the first symptoms are the anæmic condition of the patient and the dull pain in the heels and ankles, with pain and effusion in the knee-joints, evidently a subacute inflammation of the synovial membranes and of the fibrous tissues, especially about the heel and ball of the great toe, I think I may say the effusion into the joints is invariable. It generally commences in the knees or ankles, but gradually affects the elbows, shoulders, and hands. There is also a most common and characteristic complication affecting the eyes, and this is a congestion of the sclerotic. The conjunctiva is sometimes slightly congested, and the carunculæ are red and injected, but the great peculiarity is the congestion of the sclerotic vessels which are seen radiating around the cornea. This affection is quite distinct from genorrhœal ophthalmia, and never leads to such destructive consequences. In the course of time the general health suffers very severely. The exacerbations of pain in the loins increase, and are followed by profuse perspirations every morning. The urine is scanty, the bowels are constipated, the skin is dry, the tongue coated, the face hectic, pulse feeble; great effusion occurs into the joints, with constant dull, aching pain, causing complete loss of appetite and sleep, the patient frequently remaining bed-ridden for months, so that the limbs often become permanently contracted unless great skill and care be used in attending to the position of the limbs. But suppuration does not occur. Lastly, and most important to be remembered in the treatment, comes the local condition of the urethra. With the above symptoms well marked, I have rarely found an acute inflammation of the urethra, but I have never

found the urethra in a healthy state. The condition varies considerably, from a profuse muco-purulent discharge to the slightest gleety fluid, unaccompanied by any inflammatory symptoms whatever. As a rule, pain, swelling, and redness are absent, and the discharge in the majority of instances amounts to nothing more than a slight gleet—sometimes a glairy mucus, sometimes a concreted pus. This state is of course liable to be increased and attended by irritability of the urethra or bladder, by local or constitutional causes, such as strong injections, violent exercise, coitus, etc., or by constipation, catarrh, or alcoholic drinks.

Pathology.—This disease is distinct from the specific syphilitic rheumatism, as well as from the ordinary constitutional or diathetic rheumatism; it is septicæmic, in fact a chronic pyæmia, the blood being constantly vitiated by a morbid material which is absorbed from the urethra. The exact process of the absorption I am not prepared to explain, and it is not easy to determine; for the disease is not often fatal, so that we have no opportunity of examining the urethra after death. But I am prepared to advance the theory that this absorption, whatever may be the process, goes on continually during the course of the disease, and that the abnormal condition of the blood is not maintained by the assimilation of the new materials of the blood to its altered state, as in the case whenever specific poison is absorbed, such as the vaccine of syphilitic virus, the insertion of which into the blood, in however small a quantity, affects and alters the whole of the blood; and the alteration thus produced, inconceivably slight as it must be, is long maintained, the blood exactly assimilating to its altered self the materials derived from the lymph and chyle. Thus when once inoculated, it retains by the exactness of its assimilation the taint which it has received, though after a time it may not have in it one of the particles which the taint first effected. This is the case in syphilitic rheumatism; while in urethral rheumatism the diseased state of the blood is maintained by the daily absorption of the morbid material from the urethra, the new blood being

still assimilated to its normal state. Thus, as soon as the supply of the morbid material for absorption is stopped, the blood gradually eliminates the poison and returns to its healthy state. With regard to the peculiar immunity of women from this disease, I believe it to be owing to the greater thickness and coarseness of the vaginal epithelium to that of the urethra, the urethra in women being very rarely affected. It is possible also that they are less liable to it from not being pulled down by the antiphlogistic treatment and the administration of copaiba. I have seen two cases of this disease in women: One, a prostitute, in whom, after I had cured the disease in the vagina, I found the urethra very inflamed and irritable. I used nitrate-of-silver injection, and both the discharge and the rheumatism soon left her. In the other case, a married lady, the symptoms were very characteristic. Pain in the heels, effusion in the knees and elbows, inflamed sclerotic, and the usual constitutional symptoms. On examination, I found the vagina perfectly healthy, but a glairy fluid issuing from the os uteri, the lips of which were red and inflamed. I immediately formed the opinion that the continuance of the rheumatism depended entirely on the diseased state of the uterine mucous membrane, the epithelium of which is very similar in character to that of the urethra. I set myself immediatly to cure the local condition by applications of nitrate of silver and tannin pessaries, at the same time administering steel and quinine. The recovery was very tedious, and the discharge was continually returning, always accompanied by increased effusion and rheumatic pains. It is now eighteen months since I first had the case in hand; for the last six months there has been no relapse. The lady is now in robust health; no discharge, and she has gained over a stone in weight. In this case I persevered with local remedies only, except that I gave sulphur and cream of tartar to regulate the bowels and kidneys.

I am sorry to have been unable to uphold my opinion with regard to the pathology of this disease by anatomical or microscopic examination, the reasons of which I have before men-

tioned, so that I am obliged to rely on the experience I have had in its treatment and my observation of its many points of analogy to pyæmic disease to maintain my proposition. The disease is considered very difficult to cure, and certainly is so when treated by the usual antiphlogistic and constitutional remedies recommended in ordinary synovitis. Acute inflammatory symptoms being very rarely present, antiphlogistic measures are not often resorted to, and I have never known any good result from their employment, except the temporary removal of scalding and urethral inflammation. Blistering, Scot's bandage, perfect rest, friction, and mineral baths, I have used without the slightest benefit. Iodide of potassium and colchicum I have found worse than useless, and I never give it except, as in the case I have related, in order to compare its effect with the result of similar doses in ordinary rheumatic affections. The effect of iodide of potassium is to increase the anæmia, weaken the pulse, impair the appetite, and often to cause petechiæ or purpura without relieving the pain or effusion in the slightest degree. The general treatment I have found most efficacious is quinine and hydrochloric acid, or steel and strychnine, together with the administration of port wine, stout, eggs beaten up with brandy, and general high feeding, with soothing local applications, rest, poultices, and wet backings; but even then the disease often cannot be cured, although the appetite and general health return, and the pain and swelling almost disappear, yet the disease is sure to recur on leaving off the treatment should any urethral discharge remain. A very severe case first led me to form the opinions I have expressed. I had treated a gentleman for effusion in the knee-joints for several months without success. Knowing he had a slight urethral discharge which he thought nothing of, I determined to cure it, and told him I should try a course of injections. I commenced with alum and lead, which brought out a good deal of discharge, so I discontinued it. The discharge then diminished, but a good deal of irritation remained, so I prescribed half a drachm of tannin to six ounces of water, and mixed it myself. The tannin dissolved

easily in the cold water, I then added two drachms of tincture of opium to soothe the irritation. The clear solution of tannin immediately became densely clouded with a flocculent brown substance, in very minute suspension, but subsiding in about half a minute into a light precipitate, filling about half the bottle. The idea immediately struck me that it ought to be a very valuable injection for gonorrhœal and urethral discharges, for an inflamed surface requires a constant application to properly control the disease, the occasional application acting only as an irritant. Here I had an injection which answered all the purposes of the soluble bougie without any of the inconvenience; for by simply shaking up the injection and using it immediately the flocculent substance, which I conclude is gallo-tannate of morphia, is precipitated out to the sides of the urethra; and by keeping the injection in the urethra about a minute, and then letting it gradually escape, the clear fluid comes away, but leaves all the sediment behind; and I have found, from a number of experiments, it takes about four hours for all the solid residue to escape. It can be seen as a dark brown spot gradually being deposited on a piece of lint placed over the meatus; thus by injecting every four hours, I found that I could keep a powerfully astringent application in constant contact with the urethral mucous membrane. In the case I have been referring to, I ordered this injection to be continued several weeks. It cured the discharge entirely, and the rheumatism soon after began to improve; and in three months the effusion and pain having entirely disappeared, all treatment was left off. Directly after the patient contracted another discharge, which he neglected, and in less than a month the rheumatism returned worse than ever, the effusion was very great, and the pain very severe. He became extremely emaciated, with profuse sweats, and hectic; in fact, with every symptom of blood-poisoning. His friends took him into the country for three months to try a course of the bath waters. He came back little improved, with the effusion into the joints no better, and still with the gleety discharge. This I again cured with the tannin injection; and

in six months from that date he increased in weight from nine to eleven stone, the rheumatism got quite well, and he has since had no return, nor is he at all liable to rheumatic pains.

Deduction: That urethral rheumatism is a slow form of pyæmic poisoning, due, not to a sudden absorption,* but to a gradual vitiation of the blood by progressive absorption of the urethral discharge; that the vitiated state is not maintained independently of the local disease; that, when the discharge is thoroughly and permanently stopped, the rheumatism may soon be cured, and has no tendency to return, except by the access of fresh urethral discharge.—*Ex.*

Kerosene Oil in Chronic Rheumatism.—Dr. Kemp, of Wellington, New Zealand, states that several cases have lately come under his notice in which the internal administration of kerosene has had the most marked effect on chronic rheumatism. The following is one of his cases: J. H., aged forty-six, a sailor, had suffered from chronic rheumatism for twenty years. He never had an acute attack. He used to have agonizing twinges in his feet and legs; he compared the pain to that which would be produced by the skin being seized by a pair of tweezers and forcibly pulled. The attacks would come on about every ten minutes, and often for three or four days and nights. He had been under medical treatment many times, but had never had more than temporary relief. He began to feel the interval between the attacks lengthen in six weeks after commencing kerosene, and in less than three months the pains had entirely left him. After discontinuing it for some time, the pain slightly returned, but was always cured by taking two or three doses. A teaspoonful was taken in a wineglassful of water every other

* It was mentioned during the discussion that sometimes sudden and acute inflammation of a single joint takes place. I have seen two such cases in which one ankle was affected. The gonorrhœa was cured immediately by injection in one case, and the ankle got well in a fortnight, the health not being affected. In the other the discharge was allowed to run on, and the acute inflammation became chronic, all the joints became affected, and the patient suffered some months from urethral rheumatism.

night. The kerosene produced no unpleasant symptoms, no loss of appetite, no effect upon the bowels or kidneys. Dr. Kemp observes that although kerosene cannot be called a specific for rheumatism, he thinks that the cases he cites are quite sufficient to induce medical men to give it a fair trial. He is unable to find any unpleasant symptom caused by taking kerosene. The great objections with many people to taking it are the unpleasant taste and smell. Some have taken it in water or milk, but he had heard a patient say he could take it best with salt; a pinch of salt being put into the mouth and allowed to dissolve, and the oil then swallowed, mixed with about its bulk of water. Dr. Kemp is not aware of the remedy having ever been used internally, but he hopes some medical men will be found who will give it a trial, and record the results of their cases. Externally, it is of great use in cases of burns, whether severe or slight; it seems to relieve pain more than any other application, especially if resorted to as soon as the injury is received. Cases of severe burns have been known to heal up rapidly under its use alone.—*British Med. Jour.*

Guarana a Remedy for Sick-Headache.—Dr. Wilks wishes to draw the attention of the Profession to *guarana* as a remedy for sick-headache, and at the same time to ask for the experience of those who may already have some acquaintance with the drug. His own knowledge of it dates about two years back, when, after the appearance of one of his lectures upon sick-headache, he received a letter from Mr. Helmeken, of British Columbia, enclosing two powders, which he recommended to him with much confidence as able to cure the complaint. He said that, having heard much of the remedy, "I resolved to try the medicine upon one of my patients who was always coming to me with sick-headache; and sure enough it acted like a charm, and in place of suffering for twenty hours or so, the headache had disappeared in a couple. This accords with what others have told me." Upon the occurrence of Dr. Wilks's first headache after the receipt of Mr. Helmeken's letter, he took

the powder, but with only doubtful effect. He therefore did no more than casually mention the medicine to his friends, but did not recommend it. A few weeks ago, after the appearance of a second communication of his in the "*British Medical Journal*" upon the same complaint, he received a letter from Dr. Wood, of Montreal, in which he also recommended guarana as a remedy for headache, and gave a history of his own personal sufferings and the relief which he had obtained. He says: "By taking one of these powders and remaining quiet when I have felt premontory symptoms by a beginning of pain always in the right temple (headache on the other side, or in any other part of the head), I have warded off the attack, and with the first box absolutely put it off for two months—something which had never occurred in my life before." Upon so good an authority, Dr. Wilks determined to try the remedy in a more systematic manner, and requested his neighbor, Mr. Hooper, the chemist, to procure him a packet of the powders. These he has recommended to several patients and friends; and the result is so encouraging that he has hastened to suggest their trial to his professional brethren. One lady speaks most enthusiastically of their power, as she has now on two separate occasions had her headache arrested by their use. The drug has long been known, for mention is made of it in English and French pharmacologies, but appears never to have come into general use. It consists of the seeds of a tree growing in Brazil, called *paullinia sorbilis*, and these, according to Johnson, in his "Chemistry of Common Life," are used as we do cocoa. The seeds are ground into powder, and contain an alkaloid which is said to be identical with that found in tea and coffee. The medicine is manufactured by Grimault & Co., No. 7, Rue de la Feuillade, Paris. *British Med. Jour.*

Burial Places.—With reference to the deleterious influences exerted upon health by the effluvia from graveyards and cemeteries, public opinion has, for many years, been very decided, and in this instance rightly so. Owing to the character of the soil, or to the confined air of tombs, decomposition goes on less

rapidly, and with a more or less admixture of its products with gases derived from the earth. As a consequence, there is a slow and almost imperceptible poisoning of the atmosphere; and, as there is little or no attendant bad odor, those living in the vicinity of burial places have no warning of the noxious matter which they are constantly inhaling. In all large cities of the civilized world, except Philadelphia, and perhaps one or two others, intra-mural interments are positively forbidden. It would be far better that all dead bodies should be burned, but it will require a long course of sanitary enlightenment to revive this practice among civilized nations.

Among the ancients it was first customary to bury the dead near the houses occupied by the living. Experience, however, would seem to have demonstrated the evils of this procedure, for at a later period the Romans were prohibited from burning the corpses of the dead, or burying them within the limits of the city. This prohibition was continued until the end of the Empire, and was enforced under Christian authority, until the idea was conceived that it was desirable to repose, after death, near the relics of martyrs, and under the altars in the churches. During the middle ages this practice was universally followed, and it was not until the year 1765 that a royal ordinance and a decree of the Parliament prescribed that, for the future, no interments should take place in France within the limits of any city.

The whole subject of graveyards and intra-mural interments has been fully considered by Tardieu, in his admirable monograph. It must be admitted that the fact of the deleterious character of the emanations from graves is well established. Even the superposition of several feet of earth over the corpse, is not sufficient to prevent the escape of gases capable of acting with great energy on human health. These gases are not entirely such as would be given off from a dead body fully exposed to the air, and there are other circumstances which modify their action. In passing through the soil, they become mixed with substances of an animal, vegetable, and mineral character, and are evolved so slowly as to render their influence

long-continued. Among their exhalations are carbonic acid, carbonic oxide, carburetted hydrogen, sulphuretted hydrogen, phosphuretted hydrogen, and ammoniacal combinations.

Pellieux has studied, with much success, the character and effects of the gases evolved from graveyards and tombs. According to this author, carbonic acid is the predominating substance, and he attributes much of the ill effects of these emanations to this compound. In this opinion he is, as will be shown hereafter, probably mistaken. It would seem more reasonable to regard the sulphuretted and phosphuretted hydrogen as the preëminently noxious agents.

It is perhaps well to impress upon the public the fact that hygienists, however much they may differ in regard to the injurious influence exerted by decomposing animal matters exposed to the open air, are of full accord relative to the highly deleterious nature of the compounds evolved from graveyards and tombs. As is well remarked by Montfalcon and De Poliniere: "It is thoroughly demonstrated that inhumations in cities seriously affect the public health; that the miasms disengaged from sepulchres may cause, as they have often caused, terrible catastrophes; and that not only do they increase the malignancy of existing diseases, but they give rise to contagious affections, the ravages of which are often frightful."

The gases which escape from tombs built of masonry would appear to be especially noxious. Here the products of decomposition have no opportunity for escaping, except when the tomb is opened for the purpose of receiving another corpse. As a consequence, they become highly concentrated, and act with tremendous potency.

Londe regards them as more dangerous than any other emanation whatever. He refers to a case which occurred at Dijon, in 1713, in which the accidental breaking of a coffin, which had been burried for six weeks, caused very severe disorders in one hundred and fourteen persons out of one hundred and twenty who were present at the opening of the tomb, and from which eighteen died.

Many other instances of the most deplorable effects following the opening of graves are on record. Even when the bodies have been for a long time under ground, and when the cemetery is no longer used, it is dangerous to break up the soil, or to erect buildings upon it. Of course, such places should not be used as sites for residences. They are not safe, although an interment therein may not have taken place for many years. Vicq d'Azyr has stated, that at Rion, in Auvergne, the ground of an old cemetery was broken up for the purpose of improving the city. A short time subsequently, an epidemic disease broke out, by which a great many persons, particularly from among the lower orders, perished. The mortality was especially severe in the immediate vicinity of the cemetery. Six years previously, a similar event had caused an epidemic at Ambert, a small town of the same province.

Tardieu also cites an instance in which, at Paris, a number of shops were built on a situation where once the convent of the Filles de Sainte-Genevieve was placed. All those persons who lived on the first floors, especially the younger ones, were attacked with diseases which were attributed, with correctness, to the emanations from the dead bodies buried in the ground on which the buildings were erected.

And yet, notwithstanding the fact that danger almost invariably attends upon subjection to the emanations from graves and tombs, there are occasional instances of persons being exposed to these matters in a most concentrated and long-continued form, without any ill consequences following. The Church of the Capuchins, at Rome, affords a notable example of the truth of this assertion. For several hundred years, all the monks belonging to the monastery attached to that church, who have died, have been buried in a small cellar under the building. After the soft parts have become decomposed, the skeletons are taken up, and placed in their monastic garments around the walls of the room. Subsequently, when the joints likewise have yielded to the inroads of time, the bones are arranged on the walls and ceiling, in the form of rosettes, arabesques, and

other fanciful figures. There are always ten or twelve bodies in the ground, and as many skeletons standing around the room. The whole apartment is a charnel-house made up almost entirely of the *debris* of human bodies in all stages of decomposition; and yet there is no instance of any sickness having occurred, among the thousands of persons who annually visit it, which could, in the slightest degree, be attributed to any influence exerted by the locality, and the monks who live over it, and who visit it constantly, are remarkable for their sleek and rotund appearance. Indeed, the good-natured friar, who has acted as the janitor and exhibitor of the strange chamber for several years, is a wonderful specimen of robust health.

In regard to the whole subject of putrid emanations, I will repeat that, in the present state of our knowledge, it is desirable not to locate habitations in situations where they can, in the least degree, reach the inmates, and that old camping-grounds, graveyards, cemeteries, and tombs are to be especially avoided. But, at the same time, it must not be forgotten that public opinion and prejudice have exaggerated the ill effects which are liable to occur from exposure to the products of the decomposition of animal substances in the open air.—*Dr. Hammond, in New York Med. and Surg. Journal.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—PUERPERAL CONVULSIONS. By W. A. MITCHELL, M. D., Glennville, Ala.

[Sir,—I had a case similar to that described in your Journal by Dr. Davis, of Smyrna, Tenn.]

I was called on the night of July 7th, at 10 o'clock, to see a young girl (I can hardly say woman) in puerperal convulsions. Upon my arrival, I found a frail creature, about 15 years old,

eight months advanced in pregnancy, and in the midst of a most terrific convulsion; this being the fifth spasm since her attack, which occurred just two hours earlier. Her protruding and blood-shot eyes, together with lacerated and swollen lips and tongue, horribly disfigured a very pretty face. She, like the Doctor's case, had been complaining for two weeks of severe headache, sluggish bowels, and sharp pains up the spinal column, accompanied by intense and persistent nausea and vomiting. She sent for no physician, however, being told by her kind (?) friends that it was God's will that she should suffer thus, and that she must bear it.

Oh! kind Providence, how much of the suffering poor humanity endures is falsely laid to Thy charge? For I believe this case, as well as the one related by Dr. Davis, would have been spared their attacks had they received the proper constitutional treatment and necessary attention to kidney and bowels. And really, there is no telling how many dear lives have been saved by these opportune remedies directed to the general condition of the patient. And such service always goes unappreciated (because never realized) by those most interested and benefited.

But to my case. Directly after entering the room, my lancet was out, the arm corded, and I was proceeding to bleed, when my attention was directed to her weak, anæmic appearance; finding, too, that her pulse was tolerably soft and compressible, I decided not to bleed, but to rely upon the chloroform which was being administered. This acting promptly, the spasm was soon gone, and the patient breathing free and easy, as in a deep sleep. Proceeding then to make an examination, I found, to my surprise, no hirsute growth around the labia or over the pubis; and, upon inquiry, I learned that she had experienced but one decided manifestation of being a woman, as her mother expressed it, before conception. The bed was very wet where the water had been discharged, though no one knew when this occurred, as the midwife in attendance assured me that the girl had no labor-pains whatever. It took place, of course, during

her convulsive throes. Passing my finger up a very small vagina, I found the os uteri *not dilated*, but soft, and seemingly *dilatable*. But before I could ascertain the presentation, I observed that the patient breathed harder, quicker, and the lips began to twitch. Seizing the chloroform, I resumed its exhibition with the same admirable effect as before. And here, foreseeing that it would be sometime before delivery could be effected, and that the necessary manipulations might excite afresh the convulsions, and fearing to keep up the continued use of chloroform so long, I administered (not without some difficulty in her unconscious state and swollen lips and tongue) sixty grains of hyd. chloral. After allowing sufficient time for the chloral to be felt, I removed the chloroform and recommenced my examination. I found the face presenting, the chin having left the breast. I have observed that this presentation seems to occur most often in those cases where the child was carried during gestation in a lump, as it were, hanging over the pubis, instead of in the usual *diffused* manner. This had been the case with my patient. There not being room enough to pass my hand behind the vertex, the vectis was slipped up into position, and with a little pressure and traction at the same time, the middle finger of the right hand pressing the forehead upwards and backwards, I succeeded in restoring the head to its normal position. Now observing that at no time since my arrival had there been anything like a genuine uterine contraction, (and I think it due to this fact that the restoration of the head was so easily accomplished), I concluded to stimulate the womb. With this intention, I administered ʒi. of wine of ergot every twenty minutes, with an effect which I must confess it has seldom been my good fortune to witness. In fact, when the time for the fifth dose had arrived, the head was presenting at the vulva, and in a short time the child was born. The after-birth followed in good time, and all was well.

The child was badly asphyxiated, and protracted and well-directed efforts failed to arouse it, until running my finger down its throat, I got out a quantity of viscid, ropy mucus, after

which it gasped, coughed, and soon was breathing freely. The mother, save a few moans during the last severe pains, gave no evidence of any knowledge of them, but slept sweetly all the while. Being aroused shortly after the birth of the child, she was rational, though could be hardly understood on account of the condition of her vocal organs. She soon sank to sleep again, from which she awoke in about four or five hours, feeling bright and cheerful, and has had no trouble since. How would it do in all cases of puerperal convulsions to give large doses of chloral and keep chloroform to the nose until the patient is under the influence of the chloral?

ART. II.—HYDROPHOBIA.—INTERRUPTED NUTRITION. By. S. S. HERRICK, M. D., New Orleans, La.

The following cases may be of sufficient interest to justify a brief space in your valuable Journal:

I.—*Hydrophobia Treated by Chloral.*—The subject, a German tailor, in first observation was totally unable to swallow. Medication by enema was therefore resorted to, and continued solely in this manner: The bromide of lithium was first tried—℥ss. repeated in an hour—without any perceptible effect.

Chloral hydrate was then administered in the same manner—℥i., repeated in an hour. This treatment produced a most striking effect. Sleep followed the second dose, and he awoke calm, rational, and free of the spasm of the pharynx and glottis which had previously been so urgent. With considerable effort he was able to swallow a little food and drink.

The following night medication was neglected, contrary to my advice, and in the morning I found him almost uncontrollable with delirium, terror, and spasms. With the view of controlling the general spasmodic tendency and facilitating the exhibition of chloral, an effort was now used to make him inhale chloroform. The result was alarming aggravation of spasm, opisthotonos, and threatened suffocation, and it was at once

abandoned. Nearly ʒij. chloral were then given, with considerable difficulty, and the most urgent symptoms were again controlled. Henceforward the same remedy was continued P. R. N., with the same effect, till his death, which took place about 54 hours from the beginning of the attack. Spasmodic action ceased several hours before death, which was preceded by copious vomiting of a yellowish, tenacious liquid, rapid sinking, and insensibility.

Although no history of infection could be gained before his death, the nature of the symptoms admitted of no doubt in my mind, and subsequent inquiries brought to light the fact that he had been slightly bitten in the thumb, two months previously, by a little dog which "died with choking in the throat."

The effect of this mode of treatment is, I think, about as much as could be expected in hydrophobia, with our present knowledge of this hopeless malady, though the fatal event was perhaps not delayed for an hour. Had the man recovered, I should not have regarded the case one of hydrophobia, as did a recent writer in the "Lancet"; and, *apropos*, his report has elicited investigations which seem to prove that the case was one of delirium tremens.

It may be added that this plan of treatment was used by a neighboring practitioner, at my recommendation, about two years ago, with results almost precisely the same.

II.—*A Case of Congenital Deformity not Attributed to Maternal Impression.*—The parents are in the most abject poverty. The mother has evidently been poorly nourished, and is said to be intemperate. Expulsive efforts proving insufficient, I delivered by forceps. The child, though not syphilitic, was lean enough to be so, and weighed only 2½ pounds. The right arm *seemed* to have been amputated just above the elbow, and the bone, bare of periosteum, projected about a quarter of an inch. The cord was very long, and wound three times around the neck; but cannot be blamed for the condition of the arm, as there was no trace of a lower fragment. The child lived about twenty days, and died of inanition.

The father's right arm was amputated at the shoulder joint some years ago. In a previous pregnancy, the mother had been apprehensive that her child would be similarly deformed. This apprehension not having been fulfilled, was not experienced during the last pregnancy. Had such been the fact, the believers in "maternal impressions" might have made a strong example of this case. Under present circumstances will their opponents be granted a similar advantage?

The case is apparently one of arrest of development from deficiency of nutrition, but why it should have taken place just at that point I shall not undertake to say. Perhaps some future disciple of Darwin will stretch his theory enough to include the example, when our scientific system shall have undergone a radical reconstruction.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

NEAR LOUISVILLE, KY., August 8, 1872.

[This letter and "Dream" are written by one of the most accomplished ladies of Kentucky. Naturally shrinking from a public appearance before the Medical Profession, she and her friends yet think that her appearance on the present occasion is not only necessary, but unavoidable.—ED.]

Editor of the Richmond and Louisville Medical Journal:

In the May number of the "American Practitioner" (edited by Drs. David W. Yandell and Theophilus Parvin, and published at Louisville, Ky.) there appears a communication entitled, "Recollections of the Medical Society of Tennessee," by Lunsford P. Yandell, Sr., M. D. This paper was communicated by Dr. Yandell for the Medical Annals of Tennessee, now being prepared by Professors Paul F. Eve and Lindsley, of Nashville, Tenn. More than one-half of this article is devoted to the

congenial task of depreciating and misrepresenting the character and attainments, personal and professional, of his former friend, patron and benefactor, Dr. Charles Caldwell, now in his grave for nearly twenty years. The whole tenor of the production is one persistent attempt to sneer at those attainments which he could never hope to emulate, and to distort facts which he has not the temerity to deny. There is not a sentence quoted by him from Dr. Caldwell which is not tinctured with a covert insinuation of disbelief, and he constantly alludes to him in such phrases as, "by his own account of the matter," "as he expressed it," etc., etc.; and he finally ends these petty assaults by asserting that Dr. Caldwell was addicted to "fable and romance"!! True, the unspotted honor of Dr. Caldwell and his life-long devotion to truth, can be in no degree impugned or tarnished by these envenomed arrows, shot from a most malignant but very feeble bow; the attempt, however (though the deed be not accomplished), merits at once exposure and rebuke.

A brief allusion to the former relations between Drs. Caldwell and Yandell may serve to throw a different and additional light on the "Recollections" of the latter; and enable the reader to arrive at a different estimate of the characters of both than that which Dr. Yandell desires to convey.

The relation which Dr. Caldwell for many years held towards Dr. Yandell was as close and confiding as that of an elder brother. By his single influence he brought him into the medical faculties of Transylvania and Louisville.

He sustained him in those institutions against the opinions of his colleagues, and the interests of the schools; he instructed him by his learning; aided him by his advice; and (as Dr. Yandell avers in a letter to Dr. Caldwell) he "*even taught him to think.*"

It is not true (as Dr. Yandell asserts) that Dr. Caldwell's colleagues "frankly communicated to him their opinions and wishes that he should resign;" and every class, even to the last one to which he lectured, gave him unqualified assurances that they did not wish him to resign.

It is not true that Dr. Caldwell was ever "expelled" from any Faculty where it was his purpose to remain; for Dr. Yandell is perfectly aware that his resignation (to take effect in a few months) had been laid before the Trustees, and that by his (Dr. Y's.) intrigues, they were induced to offer him the indignity of accepting it at once.*

By the same nefarious proceeding, he prevailed on them to transfer *him* to the long coveted, and now vacant chair, for which he was entirely unfit, and for which his colleagues firmly and persistently refused to recommend him. The Faculty, with something of his own finesse, tolerated this transfer, in order to dispossess him of the chair of chemistry, where he no longer could pretend to sustain himself, and to which they desired to call a more competent man. They believed, moreover, that in this manner alone could they rid themselves of a colleague alike factious and incapable; and the event justified their opinion. Dr. Caldwell received numerous warnings from some of his colleagues, his friends, and from hundreds of the students, "that his seeming friend was false to him; that he was intriguing against him." The warning was rejected with scorn; he was too magnanimous to believe in such baseness thus attributed to one whom he had trusted and befriended for so many years.

Of Dr. Caldwell's imputed powers as an anecdotist, the writer is unaware (though for the last seven years of his life in daily conversation with him); but as Dr. Yandell remembers so vividly, and seems so painfully aware of the injurious effects of these "anecdotes" on the classes, it will be admissible to recall one, (omitted in his "recollections"), which, however it may have affected the interests of Dr. Caldwell, was certainly very conducive to those of Dr. Yandell.

It was almost immediately subsequent to the transactions above recorded, and after all social and personal intercourse had ceased between the two former colleagues, that a note was

* This statement is made by Dr. Caldwell in his autobiography, and is confirmed by Dr. La Roche in his life of Caldwell.—Ed.

handed to Dr. Caldwell (while seated at his own table), the contents of which were at once communicated to the assembled family. The note was from the elder son (Dr. David W. Yandell) of Dr. Yandell, and stated "that his father had a note in bank which he had been directed to take up; that he had not the money, and could not obtain it; that the note would be protested this day, and his father's credit injured. Remembering Dr. Caldwell's repeated kindness in such matters, in former times, he now appealed to him in his extremity." The family circle received the communication with derisive laughter. Not so Dr. Caldwell. He at once prepared to return a favorable reply. Being strongly remonstrated with, he answered by one of those sententious utterances, at which Dr. Yandell so felicitously sneers. Touching the open paper in his hand, he said: "*This is a request which no gentleman ought to make, but which no gentleman can refuse.*" He met the young gentleman at the bank, paid the debt and *the protest*, and the bank credit of his enemy was helped for that time. This "anecdote" was never "told" by Dr. Caldwell, but as the writer was present at the transaction, and as it is so characteristic of the modes of thought and action of the two men, it is hoped the reader will excuse its introduction.

In his "Recollections," Dr. Yandell speaks of his dead friend and patron who elevated him from obscurity and placed him in all of the honorable positions he ever occupied; of his mental and professional teacher; of his pecuniary and professional benefactor, in a manner so peculiar and characteristic, that the reader will be interested, as well as angry and disgusted, when examining a very few of these "Recollections." "Always in controversy, advocating some doctrine which was generally discredited, or opposing some system generally accepted by men, he was never lost to public sight." "At the close of his fourteenth year, according to his own account of himself, he had got all that the schools of North Carolina could teach him." "He delighted in the reputation of a bold practitioner." "He was vain of the firmness of his nerves." "He was a man (as Dr.

Dudley once said of him) of 'parade powers.'" "The staple matter of Dr. Caldwell's lectures was never attractive to his pupils." "His medical philosophy, upon which he so much prided himself, never arrested their attention." "They turned listlessly away from his stately discourses." "The moral effect of his lectures was impaired by the air of romance which pervaded them." "There was too often about his narratives something fabulous." "His lectures had ceased to give satisfaction, made up as they were largely of the marvels of mesmerism." "He held on to his professorship until the Trustees, in obedience to the unanimous (!) wishes of his colleagues, were constrained at last to expel (!) him from his chair." "He wasted the strength of his great mind defending vain speculations." "An English reviewer styled it (his style) 'prose run mad,'" etc.

A beautiful recollection, certainly, to publish of a dead friend and patron and benefactor! The reader will turn with a feeling of confidence and relief to the testimony of the distinguished Dr. De La Roche; the just and able writer; the distinguished scholar; the accomplished physician and polished gentleman. In his sketch of Dr. Charles Caldwell, these sentences, among many others, occur: "A man famous in two hemispheres." "In the two fields of thought and action the foremost man, as we think, that the Profession in this country has yet produced." "One of the grand old men." "One of

> The dead but sceptered sovereigns who still rule
> Our spirits from their urns."

His life was "altogether unique, one to which there is no parallel in the professional annals of this country, and few, in those of any other country." "He made his name familiar in every household in all the West, and for a whole generation wielded an influence such as no man else wielded; such as he left none behind him to wield." "As a teacher, Caldwell was at all times popular, and ranked deservedly among the most eminent." "Thirty years of uninterrupted service in schools of his own creation may very well attest his attractiveness." "In the power of exciting in his pupil an enthusiasm for his studies,

he has had no superior, and few equals among medical lecturers." "The mere enumeration of his published writings, by title, occupies eight pages in his autobiography; they amounted to nearly thirty octavo volumes." "From the beginning to the end of his life he was almost constantly engaged in some form of contest, battling for some truth that was struggling its way to the light, or throttling some crested error that for years or for centuries of years had wound its way through the fair domains of science." "He named March, 1850, as the period of his retirement, but the Board of Trustees anticipated him, declaring his chair vacant in 1849. For this arbitrary and extraordinary proceeding no motive was assigned, save the rather indefinite one, that "people thought him too old." The real motive was supplied by the desire of a member of the Faculty to possess Caldwell's place, which he was adroit enough to get, although, according to rumor, his colleagues *twice* refused to recommend him for it, on the ground that they did not think him qualified." "Always full of his subject, he was yet complete master of it." "In his manner, he was perfectly self-possessed and easy; in delivery earnest and impressive; generally elevated and occasionally in the highest degree eloquent." One may well exclaim, with Hamlet, "Look upon this picture and on this." Who can compare one reviewer with the other in any respect? As well compare, in the language of the Danish Prince, "Hyperion to a Satyr."

Dr. Yandell asserts that "few of his writings are likely to be read much, and none of them will probably be reprinted." The writer above quoted says: "Much that he wrote on epidemic disease, on hygiene, or sanitary establishments, and on moral reform; much, too, that he taught for forty years has become, as it were, *common property*." But it is unnecessary to swell this article in refuting calumnies so transparent and flimsy.

Dr. Yandell tried the pulpit, when the lecture-room failed him. What benefit other souls may have derived from his teachings, it is impossible to say; but he seems never to have

taken to himself the Scriptural injunction: "*Physician, heal thyself*"; for all the old venom of heart and tongue have, after an interval of twenty years, been poured out in these "Recollections" of his buried friend! It may be true, that the writings of Dr. Caldwell will not now be widely read, for he dealt in truths alone, or what he honestly believed to be such, and this is emphatically the age of fiction, and his biographer has fully availed himself of the time and opportunity to let his imagination and invention run riot in his "Recollections."

While he is compelled to admit that Dr. Caldwell attained and preserved the highest distinction at home and abroad, he yet more than insinuates that he possessed not one qualification to entitle him to such honors. It seems strange that any man could hold so high and prominent a place in the scientific world for so long a period without *any* of the necessary qualifications; but if such a thing is *possible*, it seems even stranger that (having such a "plentiful lack" of such qualifications) Dr. Lunsford P. Yandell has never attained to any eminence or distinction whatever.

The measure of Dr. Caldwell's usefulness to the school, and appreciation by the pupils, may be determined by the logic of undeniable facts, well known to the whole medical world of the West and to the citizens of Louisville.

The Medical Department of the University of Louisville, established by the untiring energy and perseverance of Dr. Caldwell, continued to flourish and increase *just so long as he continued a member of its Faculty.* It was the crowning work of his life. During the last few years of his professorship (the years in which Dr. Y. says he was neither useful nor popular), the Medical Hall literally overflowed with students. The last class that listened to him was the most numerous and intelligent that has ever assembled in any Western school *before or since!* The school was to him as the child of his old age; its prosperity and usefulness were the very pride of his heart. The scientific structure had indeed grown into splendid proportions. The Trustees and Faculty committed the mistake of supposing

that, now, they could do without the architect. Dr. Caldwell left the school, and from that hour it went *down;* down with a plunge, and steadily has it proceeded in its course. The strongest and most wary of the Faculty soon left the falling house; and although a few able and distinguished gentlemen entered it from time to time, their stay was brief. They were too wise to identify themselves with a failure. Sentence had gone forth against the once noble institution. The ominous declaration ICHABOD seems to have been written over its portals; and it has continued to fall lower and lower, in public estimation, growing "smaller by degrees and beautifully less," until it has come to be laughed at as a cheap-shop for indifferent wares; sustained by manipulations, and underbidding more dignified institutions; thus cheapening and degrading the noble Profession which it was the life-long effort of Dr. Caldwell to strengthen and exalt.

Dr. Caldwell died in July, 1853, and in the August following, Dr. Yandell published a "Memoir" of his lately buried friend, of which his present publication is but a rehash spiced with a higher venom, and adorned with incidents from his own prolific imagination. The "Memoir" was at once replied to by the son of Dr. Caldwell; its spirit held up to ridicule and scorn; its statements branded with falsehood and disproved by copious extracts from Dr. Yandell's letters to Dr. Caldwell. The sentence of the public was prompt and severe.

It is proper to allude to a few facts in the reply made by the son of Dr. Caldwell. Dr. Yandell, in his "Recollections" of Dr. Caldwell, says: "The staple matter of Dr. Caldwell's lectures was never attractive to the mass of his pupils;" "that medical philosophy, upon which he so much prided himself, and of which he had so much to say, never arrested their attention"; "they turned listlessly away from his stately discourses." In his private letter to Dr. Caldwell (quoted by the son), he thus writes: "I am unwilling to believe that the young men of my State, of whatever profession, could be insensible to the charms and force of that eloquence which so completely

riveted the attention of your classes last winter. Nothing earthly, my dear sir, could afford me more pleasure than to hear that man, from whose lectures I have gathered the richest literary treasures of my life, lecturing to my young friends in Nashville. I would look upon it as Heaven's best boon to my countrymen." These extracts are most carefully presented. Can there be a greater difference in testimony, than is found in Dr. Yandell's letter to Dr. Caldwell living, and in his "Recollections" of Dr. Caldwell dead? Was he the sycophant, or is he the assassin, or has he basely played the part of both? Well might the son of Dr. Caldwell write, as he did, in regard to Dr. Yandell's impotent malignity in trying to defame the character of his buried patron and friend; "the abortiveness of his attempt may be most fitly illustrated by a reference to one of Thomas Moore's brief poems, inspired by the attack of Leigh Hunt on the character and reputation of Lord Byron, and entitled, *The Living Dog and the Dead Lion.*" All who read the reply of the son to the attack upon his dead father will remember it.

The friends of Dr. Caldwell were very indignant; but nearly a score of years have passed since then, and they who honored him most were content to forget the past; and hearing (and believing) that a great calamity had befallen Dr. Yandell, were induced in true sympathy to extend to him the hand of reconciliation, and to remember nothing but the kindly intercourse of former years.

It was therefore with surprise, as well as indignation, that they read this renewed and insidious attack on their lamented friend. The son of Dr. Caldwell is now, unhappily, incapacitated from again taking up the defence of his honored father; a fact well known to Dr. Yandell.

Impelled by a reverential regard for the great and good qualities of a loved and long-lost friend, the writer, unwillingly, but without fear, assumes the task which gratitude, as well as a sense of truth and justice, imperatively demands.

The foregoing historical *truths*, which challenge inquiry and

defy contradiction, are the rebutting testimony which is offered to the public, in vindication of the assailed and calumniated reputation of the distinguished dead.

H. W. WARNER.

THE NIGHTMARE; OR, THE INGRATE'S DREAM.

'Twas the midnight hour, and the taper shed
A dim and flickering beam,
When a careworn watcher sought his bed,
"To sleep—perchance to dream";
He stands in a "Hall" he has seen before,
Though his sight is now misty and dim,
And numberless faces, from ceiling to floor,
Are steadfastly gazing on him.

A chair is beside him, all stately and grand,
He grasps it with trembling delight;
At last it is empty; beside it I stand;
It is mine, by a purchaser's right—
Long years have I sought it, by tortuous ways;
I have flattered, deceived—aye, betrayed;
At length it is mine, to the end of my days,
For its terrible price has been paid.

"The guide of my youth, whose encouraging tone
First roused to ambition my soul;
The prop of my manhood, whose vigor alone
Supported me on the goal;
The friend of my prime, who, when others assailed,
Stood firm in my front to defend;
I have offered him up; all my arts have prevailed,
And I sit in the seat of my friend."

With a gesture triumphant, he sinks in the chair;
But he scarcely had done so a minute,
When it seemed as if something had withered him there;
He was hideously little within it.
He stretched forth his hands to the side of his seat,
It glided away from his side;
He leaned to the back, but its sudden retreat
All his efforts at contact defied.

He tried to place firmly his feet on the floor,
To steady himself in the chair;

But the space elongated he measures no more,
And his feet hang suspended in air.
"Help! help!!" he now cries, while a horrible fear
Made pallid his recreant face;
And he seemed like an atom contending in air
To fill up the measureless space.

Dark shapes, like his aids, around and above,
Seemed to whisper, with visages grim,
The assistance we gave you, arose not from love
Of you—it was in envy of him.
A figure rotund stands in front of his seat,
And with files of old 'Journals' at hand,
Strives to pile up a cushion to reach to his feet,
And thus to assist him to stand.

Another assists him, and places all 'round
Old pamphlets, as stable supports;
And volumes of books, which with knowledge abound,
Of translated Hospital Reports.

He heeds not their efforts, his eyes in amaze
Are strained on the opposite wall.
What object magnetic thus fixes his gaze,
And holds all his senses in thrall?
'Tis only a picture, at most; or the place,
Perhaps, where a picture once hung.
Then why stand the drops of cold dew on his face,
And why paralyzed is his tongue?

Those eyes that meet his, how they pierced to the soul,
With a scrutiny not to be borne;
While the haughty lip curled, as expressing the whole
Of its cold and ineffable scorn—
Behold, how it changes; in palpable form,
It descends from the place of its rest,
And white as the billows, when tossed by the storm,
Is the beard flowing over its breast.

He sought with some words from the holiest book
The spirit accusing to lay;
But his voice with a tremor unnatural shook,
And "Hail Master!" was all he could say.
It passes before him, that phantom of air,
It is seen—it is known by them all;
And the spirit that long had inhabited there
Forever departs from that hall.

Once more he is standing—a scroll in his hand,
And he reads as if bound by a spell;
But the words that he utters can none understand,
Save himself, who remembers them well.
"Whatever my sins, for your benefits true,
No ingratitude ere can be shown;
Though the hand of another may deal you a blow,
None can ever be struck by my own."

He crushes the paper and looks on the crowd,
But their eyes gleamed like those on the wall,
And a bitter expression—half sneering, half proud—
Seemed curling the lips of them all.
"Hark! whence is that hissing?" he suddenly said,
And they answer with shouts and with roar;
And the dreamer has started—awake—from his bed,
Where in peace he can slumber no more.

It was naught but a dream—and his nightmare has fled,
Yet still is his bosom dismayed;
For no spectre appals—whether living or dead—
Like the face of a friend we've betrayed.

H. W. W.

NOTE.—It is with pleasure that a journalist thus accords space to a lady for the able vindication of her maligned and long-buried friend.—ED.

ATLANTA, GA., July 19, 1872.

Dr. E. S. Gaillard:

Dear Sir,—In the "Georgia Medical Companion" of June, 1872, pages 375–6, is published a paper purporting to be the proceedings of the Faculty of the Atlanta Medical College; the paper is without date, and addressed to the President of the Board of Trustees of said College, and purports to have been signed by Dr. A. Means as Chairman of said Faculty. Such proceedings were never had by said Faculty, with our knowledge, consent, or approval; nor is there a record of such proceedings upon the Minutes of the Faculty.

Of the members of the Faculty mentioned in said paper, we three are the only ones now present in the city of Atlanta: Dr.

O'Keefe is deceased, Dr. Miller is temporarily absent, and Dr. Hillyer is a resident of Rome, Ga. Dr. Means's letter, herewith accompanying, speaks for him.

Respectfully,

W. F. WESTMORELAND, M. D.;
J. G. WESTMORELAND, M. D.;
S. H. STOUT, M. D.;
Resigned in February, 1867.

NOTE.—The Emeritus Professorship herein repudiated, Dr. Powell claims, was conferred upon him through an official communication from the Faculty of the Atlanta Medical College, and that this communication was signed by "A. Means, M. D., Chairman Faculty Atlanta Medical College." This alleged communication is published in the June number of the "Companion." The Faculty, it is seen, repudiates it, and all knowledge of it. The signer (Dr. Means) of the mythical document thus writes (the extract being made from his letter of July 18th, 1872, now open before the writer): "I have no recollection that this subject was ever presented to the Faculty in session, and cannot therefore recall any action of that Body officially authorizing me to make such a proposition." In closing his letter, he says that he has "no recollection that the Faculty officially tendered, through myself or any one else, those terms."

It is melancholy that any member of the Medical Profession could be guilty of so infamous a fraud upon the public, but when the guilty and convicted impostor proves to be one who is always prating of ethics and propriety, nothing less than the evidence here given could make the perpetration of such a fraud credible.

This unfortunate man tries, by the use of ingenious means, to secure a diversion by endeavoring to make his readers believe that condemnation of himself is prompted by a desire to uphold the Faculty of the Atlanta Medical College; a Body of whose records, acts, and purposes the writer is profoundly ignorant; this diversion is a diversion indeed, but it will prove to be such only to those who witness it.

In all of his efforts to prove himself what he is not, Dr. Powell has used testimonial papers without caption, date or signature. On the recent pleasant occasion of making himself an Emeritus Professor, he ventured, while omitting the caption and date, to at least give a signature. This innovation on his established rules was fatal to him. The letter of the Faculty of the Atlanta Medical College has been his grave. The writers should have placed at the head of their communication the epitaph-like declaration and admissible pun, HIC JACET.—ED.

FRANKFORT, KY., June 12, 1872.

Dr. E. S. Gaillard:

Dear Sir,—Dr. Landon Carter, of Anderson county, Ky., some time last winter suggested to me a method of inoculation for the prevention of variola which I think is of incalculable value, both to the medical profession and to people in general. His suggestion is this: I inoculate with lymph from a small-pox vesicle just in the transition from the vesicular to the pustular stage, when the lymph has a pearly color. This, while it gives perfect immunity, both as far as small-pox and variola are concerned, does not produce any more severe symptoms than vaccination, if as severe. Now for the proof. I have had charge of the Kentucky Penitentiary, as physician, since last August. About the first day of November a convict was received, who, in a few days, had the characteristic small-pox eruption. Every effort was made to prevent the spread of the disease. No less than 400 men were vaccinated with good, reliable vaccine virus, and the man who was first affected was isolated. Still the disease gained ground, until I was compelled to use the general hospital for small-pox patients. The men slept in separate cells, but of course were brought in contact with each other in the different shops and factories. As soon as the disease was suspected from the premonitory symptoms, the man was sent to the hospital and kept there, away from the other prisoners. On the 1st of December I had at least forty men sick with variola and varioloid. Very many had to be relieved from their task who had been vaccinated (although there was no varioloid) on account of fever and sore arms. The women, thirty-four in number, all slept in one large room over the hospital, and were not kept separate to the least extent at the time mentioned above (December 1, 1871). I noticed a woman very sick with what proved to be a most violent and confluent case of variola. I had no vaccine matter at the time, and concluded then and there to try inoculation, as suggested by Dr. Carter. I went to the general hospital, and found the eruption on two men just at the right stage—viz., the

milky stage of the lymph. Both of these cases were confluent, and one died a few days after, so violent was his attack. Procuring a sufficient quantity of this lymph, I returned to the women's room, and vaccinated thirty-three of them, just as vaccination is performed, that is, with a few scratches, and then applied the lymph.

You must remember that these women slept in the same room with the confluent case, and no precaution whatever was used to prevent their contracting the disease. The inoculation succeeded with every one. I observed from two to six (never more) pustules at the point of insertion; no fever, no soreness, no axillary adenitis. Not one of these women lost a minute's time from their work; and from that day to this I have not had a single case of variola, varioloid, or anything of the sort in a single woman. On the contrary, I have had altogether one hundred and fifteen cases of variola and varioloid with the men where vaccination was relied on instead of inoculation. I will state here, that in the greater number of women no vaccine mark could be found; so that it cannot be said that the result of inoculation was modified by previous vaccination. I have since tried inoculation with the men as they have been received into the prison, but have not had the lymph exactly at the proper stage; have inoculated with lymph too near the pustular stage. The result is, that the men have from twenty to a hundred pustules, are confined to the hospital for a few days, the majority not sick enough to go to bed.

Dr. Carter says that if the lymph is used in the early vesicular stage, there is no effect and no preventive influence exerted thereby; on the other hand, if pus is used, the inoculation proves too severe. But use it at the stage I have mentioned, the effect is trifling, while complete immunity is obtained. Such I have proved to be the case by actual experiment in nearly sixty cases. I have not pushed this idea as far as I should, and much yet remains to be proven; but there is enough to induce any medical man to investigate this opinion and prove it to his own satisfaction. Suppose it to be the grand thing that I firmly

believe it is, why should it not take the place of vaccination? If a good, stout child should have variola, why not wait until the eruption has reached this particular stage, and obtain lymph enough to protect a thousand not only from variola but also varioloid; especially when the effect produced is not near so severe as the effect of vaccination. With perfect confidence, yet some diffidence, I ask you to publish this, so that the attention of the Profession at large may be drawn to investigate this most important subject. Respectfully, W. B. RODMAN, M. D.

TRENTON, GIBSON CO., TENN., Jan. 25, 1872.

Dr. E. S. Gaillard:

Dear Sir,—About twenty-five years ago my father was called, as he informs me, to see Mr. A., suffering from passing a gravel from the bladder along the urethra. To be sure of a doctor, he also sent for Dr. J. M. Watson. They both arrived about the same time; and, in consultation, agreed to give the warm hip-bath and morphine to relieve pain and facilitate the passage of the gravel. Dr. W. left, and father remained, watching the suffering patient. It occurred to him if the patient would hold the glans penis in a pendent position, and allow the urine to accumulate in the urethra so as to distend its walls, that the gravel would pass by gravitation; and so advised, to the immediate relief of his patient. He states that he has since treated quite a number with like success.

Some weeks since Mr. R. C. called at our office, who informed us he had sometime since made a visit to St. Louis for the purpose of consulting Prof. Pope about his condition, as he had for several years been troubled by the passage of gravel; was advised to return home, use morphine, warm hip-bath, etc. We advised him to try the above treatment, and he since reports that it is a complete success.

From these and many other similar cases, and not having seen anything of the kind in print, I send this for publication, if deemed worthy. Your obedient servant,

A. F. LOVE, M. D.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

West Virginia State Medical Society.

The Society met Thursday morning, June 6th, at 9 o'clock—Dr. Lazzel in the chair.

Dr. Safford read a voluntary paper on Specific Contagion of Puerperal Fever, which was referred to the Committee of Publication.

Dr. Jepsom offered the following as an amendment to the By-Laws: "A committee consisting of two members, to be called 'The Committee on New Remedies,' shall be appointed annually, whose duty it shall be to make a written report at the next regular meeting succeeding their appointment on such new remedies and appliances, medical and surgical, as may be deemed of value and importance to the Profession." Adopted.

Dr. Blum laid upon the table a series of anatomical plates, and invited their inspection by the Society.

Dr. Frissell, by invitation, addressed the Society on the Treatment of Cerebro-Spinal Meningitis.

Dr. Jepson reported a case of sudden death of a dropsical woman, in which a post-mortem, one hour after death, revealed the presence, in the right ventricle and pulmonary artery, of a firm, elastic clot, over eight inches long.

Nominations for President being called for, Dr. Safford nominated Dr. Roemer, of Charleston, and Dr. Bruce named Dr. R. H. Cummins, of Wheeling.

Dr. Cummins, receiving a majority of the votes cast, was declared elected President for the ensuing year.

The election of Dr. Cummins was, on motion, made unanimous.

Dr. Davis nominated Dr. Roemer for First Vice-President, and, on motion, the election was made unanimous.

Dr. Baird nominated Dr. Davis for Second Vice-President.

Dr. Davis declined, but the Society elected him unanimously.

Dr. Ford nominated Dr. Moore, of Wellsburg, for Third Vice-

President; Dr. Bates named Dr. Hall, of Ritchie county; Dr. Hazlett, Dr. Young, of New Martinsville.

After three ballots, Dr. Moore was declared elected Third Vice-President.

Nominations for Secretary being in order, Dr. Hall nominated Dr. William Dent, and, on motion of Dr. James Cummins, the election was made unanimous.

Dr. James Cummins nominated Dr. J. C. Hupp for Treasurer, and there being no other, the election was made unanimous.

Drs. W. J. Bates, Young, Hazlett, Safford, Roemer, Baird, Hall, Allen, Davis, Brock, and Hildreth, were nominated for Censors.

A ballot was had, which resulted as follows: Dr. Bates, 22; Dr. Young, 17; Dr. Hazlett, 11; Dr. Safford, 14; Dr. Roemer, 12; Dr. Baird, 12; Dr. Hall, 16; Dr. Allen, 17; Dr. Davis, 14; Dr. Brock, 9; Dr. Hildreth, 15.

Drs. Bates, Young, Allen, Hildreth, and Hall, received a majority of the votes cast, and, on motion of Dr. Baird, the several candidates having the highest number were declared elected a Board of Censors for the coming year. Adopted.

Thereupon Drs. Bates, Young, Allen, Hildreth, Hall, Safford, and Davis, were announced as composing said Board.

Adjourned until 2 o'clock.

AFTERNOON SESSION.

The Society assembled pursuant to adjournment.

President Lazzell made the following appointments for the ensuing year:

Committee on Publication.—Drs. Bates, Hupp, Hildreth, and William Dent.

Committee on Necrology.—Drs. Hazlett, Berkebile, and Roemer.

Committee on New Remedies.—Medical Division—Dr. Jepson; Surgical Division—Dr. Pipes.

Essayists.—Drs. Davis and Berry.

Committee on Medical Botany.—First District, Drs. Hildreth

and Wiesel; Second District, Drs. Bronson, and Brownfield; Third District, Drs. Roemer and Harris.

Committee of Arrangements.—Drs. Davis and the members of the Society at Parkersburg.

Committee on Climatology and Epidemics.—Drs. Roemer, Harris, Hildreth, Wilson, and Ramsay.

The committee appointed to memorialize the Legislature for the repeal of all laws forbidding the study of practical anatomy, asked further time in which to report. Granted.

A volunteer essay on Hernia was read by Dr. Brock, and referred to the Committee on Publication; and permission was granted to Dr. Brock to publish it in such other medical publications as he may select.

The report of the Board of Censors, to which was referred the matter of settlement with Dr. James E. Reeves, late Secretary, was taken from the table and read. It shows that Dr. Reeves was indebted to the Society in the sum of $13—$5 admission fee of Dr. Schumaker, and $8 personal dues. This has since been settled. The Board further state that they have found, in an examination of the case, a want of due respect on the part of Dr. Reeves toward the gentlemen composing this Society, in addressing a letter, abounding in highly offensive language, to the chairman of a committee appointed by your President; and the Board of Censors would respectively insist that such a course of action is, and should be, contrary to the code of ethics by which this Society is governed, and liable to severe reprehension, and unless perfectly adjusted by Dr. Reeves in his full acknowledgment of wrong, we recommend his expulsion.

The report of the Board of Censors was adopted.

On motion, the letter referred to in the above report was read.

Dr. Reeves then made an explanation of the causes that induced the letter. His apology was not deemed satisfactory.

Dr. Reeves then made the following apology in writing:

"In my letter to the special committee, I say that I saw certain credits, etc., made on the Treasurer's books by the Treas-

urer, that if they do not now so appear thereon they must have been erased, etc., or that my eyes did not serve me correctly. The said committee of unprejudiced gentlemen have said, after an examination of said records, that they find no such evidences of alteration. Therefore I was surely mistaken, and I heartily regret having made this declaration or any other unkind allusion to the Society. JAMES E. REEVES."

On motion, the apology was deemed ample and sufficient.

The President then delivered his valedictory, as follows:

Before the adjournment, allow me, gentlemen, to return my cordial thanks for your uniform kindness and assistance in conducting the proceedings of this Society. I am sensible of many imperfections and mistakes, but they have been of the head, and not of the heart. I am fully identified with the interest of our Society to promote its usefulness and advancement.

To the Profession and citizens of Wheeling we are largely indebted for the pleasant meeting we have had. That this has been an interesting and profitable meeting, we all realize, and now feel that our Society is more firmly established in the hearts of the Profession than ever. Thanking you all again, and hoping we may all meet one year hence at the Parkersburg Wells, I bid you adieu.

The Society then adjourned to meet at Parkersburg Mineral Wells on the first Wednesday in June, 1873.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

A YEAR BOOK OF THERAPEUTICS, PHARMACY, AND THE ALLIED SCIENCES. By HORATIO C. WOOD, JR., M. D., Professor of Medical Botany University of Pennsylvania, etc. New York: William Wood & Co. 1872.

This work is fairly described by its title. It is divided into

five parts, as follows: Therapeutics; Materia Medica; Toxicology; Prescriptions and Formulas; General Receipts. The work has been prepared with great care and fidelity, and really constitutes a most valuable addition to the medical library. It is true, the general journal reader will realize that much of it has been for some time familiar to him, but it is impossible even for one reading a large number of journals to have the facts in this volume so valuably and conveniently arranged; even though an elaborate index be prepared for the purpose. Of course no one could prepare such a volume to suit the tastes and wants of all; there are wise and foolish men as well as wise and foolish virgins. What is old to many, will be novel to many; as far as can well be done, Dr. Wood has arranged this work to suit the great majority. He has displayed much taste, knowledge, and excellent judgment in its preparation. It is not safe to recommend a work unqualifiedly, but an exception in this respect may be made in favor of this volume.

MEMORIAL TO THE SENATE AND HOUSE OF REPRESENTATIVES OF THE STATE OF GEORGIA. By the Faculty of the Atlanta Medical College.

This memorial sets forth the grievances of this Faculty, and chiefly the conduct of their expelled colleague, Dr. Powell. His course of conduct, it seems, had been so injurious to the Faculty and the College, that it was deemed necessary to make a public and official report to a Body constituting, in part, the custodians of the Institution injured. The Faculty thus set forth their reasons for having expelled Dr. Powell:

"The ground for this action on the part of the Faculty was general unprofessional conduct, running over a number of years, on the part of Dr. Powell, and especially his course in regard to a hospital, which he proposed to establish in the city of Atlanta for the treatment of the diseases of women, called the "Ladies' Home." It was not to the establishment of a private hospital, *per se*, that his colleagues and the Profession at large objected, but to the means employed for the accomplishment of this object. He represented to the public that his hos-

pital was to be a great benevolent institution, and upon this misrepresentation, obtained a large sum of money, amounting, by his own admission, which is susceptible of proof, to one hundred and eighty thousand dollars in Confederate money, in 1863. This money was procured by his agents from the armies of Virginia and Tennessee, upon representations made by said agents to the soldiers, that his hospital was intended for the treatment and care of the widows and wives of Confederate soldiers, when, in fact, it was to be a private hospital, managed and controlled by himself, for his own private and personal benefit.

"A large amount of said sum of money was realized from the sale of a large lot of sugar in Richmond, Va., in (it is believed) 1862. Sugar at that time was selling in Montgomery, Ala., at eight or nine cents per pound, for the reason that no transportation could be obtained for it, the government having monopolized all available transportation, whilst in Richmond it readily commanded seventy to eighty cents per pound. Dr. Powell obtained permission from the Confederate authorities to transport this large lot of suger (50 to 100 hogsheads, exact number not known), from Montgomery to Richmond, upon the ground that the proceeds were to be applied to the building of a charitable institution, which was to be devoted to the patriotic object of taking care of the wives and widows of Confederate soldiers. What did Dr. Powell do with this large sum of money, contributed by soldiers and others, for the erection of his hospital?

"The surviving heroes of the 'lost cause'—the noble Southern women—who contributed to his paper under the belief that, from their literary labors would result ease and comfort and consolation to some afflicted member of their sex; the public at large, and especially this community, *demand* of Dr. Powell an account of his stewardship in the management of this large sum of money. They charge him with a gross violation of public trust and confidence in disposing of the valuable real estate intended for this pretended benevolent institution, and placing the money, about ten thousand dollars in greenbacks, in

his own pocket, or *smuggling* it away beyond the reach of his honest creditors.

"What has become of the commodious and valuable four-acre lot in the heart of this city, upon which he laid the foundation of his hospital, and the titles to which were vested in himself? Why was not a Board of Trustees invested with the titles to this property, purchased, in part, by the generous contributions of our soldiers? The reason is now obvious. This hospital was to be Dr. Powell's private property, to be sold at his pleasure or inherited by his family.

"After the war, he raised his hospital project. He published a newspaper in this city, the profits from which were to be applied to the erection of his hospital. From week to week he made appeals to the public for support to his paper, upon the same charitable and benevolent ground—still persisting in his impositions on the public, that he was engaged in a project worthy of the commendation and support of all good men, and especially good women, when, in reality, he was shrewdly attempting to build himself a fine house; for he must have known that an institution, such as he was projecting, could not be sustained at the South. Dr. Powell was for this expelled."

This is the language and action of a Faculty which Dr. Powell claims made him an "emeritus professor"!! Not an "emeritus" of any special chair, but of every thing, in a general way; a species of immeasurable testimony to the magnitude and magnificence of omniscient medical genius!! The repudiation of such an act and of such a man on the part of the Faculty will be found on page 360 of this number of the Journal.

It is true, that Dr. Powell has entered suit for defamation of character, but (what is most suggestive and remarkable), the defendants, long since ready with their evidence to prove the truth of their allegations, cannot obtain an opportunity for doing so!!

When the first few numbers of Powell's "Companion" had been examined, it seemed almost certain that all was not well

with that unfortunate individual; the careful reader was ready to exclaim, in the language of Marcellus to Horatio, "Something is rotten in the State of Denmark." The pen, that subtle probe, was gently, very gently, used, and the result demonstrates that the diagnosis of the case was perfect. Up to the period of recent revelations, Dr. Powell has claimed to be like a lamb in the Mosaic ritual, "spotless, without fault or blemish;" but examined as he has been, it is now evident that he belongs to the other class enumerated in the sacrificial catalogue; the class denominated "unclean," and dismissed as unfit for sacrifice.

It is true that he yet blusters about ethics, etc., and states his readiness to break a lance (figuratively of course) in vindication of his immaculate record; but such bluster is the gasconade of a medical Falstaff. Indeed, Powell has done for the labors of the editor what Falstaff did for the career of the soldier; by presumption; pretention; ignorance; dishonesty; by the mustering of ludicrous forces, by his past swaggering and present pitiable spectacle, he has made gentlemen blush, that they wield a weapon which he has so stained and degraded. Even more close than this, however, is his resemblance to the historic and swaggering impostor mentioned. In the Moorland affair, near Shrewsbury, the poor butt of Prince Hal "showed the white feather." In the Westmoreland affair, near Atlanta, the medical butt of his city hoisted the same peaceful and honorable ensign. As this has just been learned, what is to be done with so doughty a warrior? There is but one course indicated; this is to say, with all who have erred, "peccavi;" and to add apologetically, to the readers, for the little attention which has been exacted of them, what the "second" of poor Powell had to say to those whom his "principal" failed and feared to meet, as had been agreed upon; "gentlemen, I have mistaken my man."

It is unpleasant to "shoot at a pigeon and kill a crow," but the incidents of the nursery rhyme often constitute the experiences and lessons of life. When one has had the misfortune

to kill a crow, he can only (if he is wise) hang it up; that others as well as himself may appreciate its repulsiveness or uselessness, and avoid such an error in future.

ANNUAL ANNOUNCEMENT OF THE MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA FOR THE SESSION OF 1872–3.

It is with great regret that the alumni of this venerable Institution (at Charleston, S. C.,) learn that at its next session a radical change is to be made in its policy. The Faculty have determined to charge only $5 for the school tickets, and $5 for matriculation; or, as it is announced in the catalogue, $10 for matriculation and nothing for the tickets. The time has been when this College, with its strong and able Faculty, competed successfully with the best colleges of the land, and charged very nearly the same prices; prices more than twelve times greater than those now asked. It requires no spirit of prophecy to predict a total failure. Any Institution giving away its tickets will soon find that there are no students willing to receive them. Such a policy will ruin any Institution. It is announced that the Faculty will not adopt "a Beneficiary System," because it is unfair to those who pay for their tickets; but if those who pay, can afford to pay, and those who do not pay, cannot afford to pay, such a course would be one of justice and equity; not one of injustice and partiality. One might as well claim that a hotel landlord should not feed the poor, because it was unjust to the rich .The parallel is complete. What would be said of the hotel landlord who informed the public that he could not give food to the poor, because it was unjust to those who pay him; to those who can afford to pay him for what they consume. If physical food is justly and universally given to all who are unfortunate and cannot pay in whole or in part for it, why cannot mental food be dispensed on the same terms? Some will be always rich; they should and must pay for what they receive. Some will always be poor; they should and must be aided as far as is possible.

This policy, thus announced, is read with great regret. It

will ruin the school and reflect seriously upon the excellent and accomplished corps of teachers connected with it.

Just as this intelligence is received in regard to the Charleston College, there comes the statement that the Medical University of Columbia is passing under the dominion and domination of ignorant and corrupt managers, whose course is so condemned and nefarious that the competent corps of teachers in the Institution are resigning, to escape insult and contumely; two of them having already been removed without any ostensible or alleged cause. The era of misrule, corruption, and ignorance, so long anticipated for this University, is about to dawn; indeed, it has already dawned.

With the hopes of the Medical Faculty at Columbia blasted, it is doubly to be regretted that the able officers of the College at Charleston have adopted a course which must ruin their Institution, and bring mortification, failure, and disaster to themselves.

THE MAGNETIC AND MINERAL SPRINGS OF MICHIGAN; THE CLIMATE of Michigan, etc., with Maps and Illustrations. By STILES KENNEDY, M. D., Wilmington, Del. James & Webb, Publishers and Printers. 1872.

This work is intended to meet a long-existing want. The secular as well as the professional public have, for years, desired information on the interesting subjects presented for examination in this volume. Few believe, of course, any of the many statements made in regard to the magnetic properties of the Springs of Michigan; for the experiments giving evidence of the existence of terrestrial magnetism at these Springs would demonstrate its presence at almost all Springs similarly tubed and arranged; there are, however, very many Springs of great interest and value in Michigan, and all who have known of their existence have desired to be accurately informed in regard to them. This volume enumerates almost all of these waters, giving their analyses, properties, and effects. There is added in this connection very much to interest and instruct the reader. Much valuable information is given in regard to the climate of

Michigan, and there is appended to the work a map of the State. The author describes particularly fourteen of these so-termed magnetic Springs, and illustrates their effects by extracts from some of his several hundred cases. The work is adorned with lithographic drawings of the grounds of many of these Springs, and the reader has the opportunity of forming a very fair and reliable conception of the whole field presented for his investigation.

To those residing in the Ohio or Mississippi Valley, or in the Trans-Mississippi region, this volume will be peculiarly interesting. Such persons living far away from the more noted American Mineral Springs will be pleased to find near them waters which bring healing to the sick and a climate invigorating to all who are oppressed or worn in the discharge of the very heavy duties of life. The work is recommended to all; the secular as well as the professional reader. It is well issued.

ADDRESS BEFORE THE SOUTH CAROLINA MEDICAL ASSOCIATION, April, 1872. By F. PEYRE PORCHER, M. D., President of Society.

This address is intended chiefly to teach the very unwelcome and disastrous lesson, that Charleston is in the yellow fever zone, and that when prevailing in the city, it is due to local causes. If such be accepted as the fact, the result to that poor unfortunate city must be gloomy indeed. It is true, that precautions and prophylactics, personal, topographical, and hygienic are described, but experience demonstrates that, if a city be in the yellow fever zone, all labors, scientific and physical, can change the result but little. It is to be hoped that the author is in error, and that the hope of the city may still lie in a rigorous quarantine. The rest of the address is devoted to the treatment of the fever. The pamphlet will be read with interest and profit.

REPORT OF THE COMMISSIONERS OF THE KENTUCKY INSTITUTION for the Education of and Training of Feeble-minded Children. 1872.

The chief portion of this report is, of course, that presented

by the Superintendent, Dr. E. H. Black. He draws especial attention to the fact, that the Institution is intended for feeble-minded children, and not for idiots; though he very properly recommends that the State take some action for the humane and efficient protection of the idiot. The Institution seems to be under excellent management. From a careful inspection of it, the writer can certify that its condition and whole direction are highly creditable and honorable to its efficient and enlightened Superintendent. Every department gives evidence of his fidelity and attention. The experiment of this Institution has been highly successful, and very many helpless children have been mentally and physically trained to become self-sustaining and reliable laborers.

The Institution is represented as needing a small appropriation to render complete the facilities for securing the comfort and health of the children. It is to be hoped that it will be promptly and generously granted.

The Legislature owes this to the helpless inmates of the Institution, to the people of the State, and to the faithful and efficient officer who has labored with such uniform zeal and fidelity.

THE USE OF PEPSIN IN THE DIARRHŒA OF INFANTS. By JAMES HAWLEY, M. D., Brooklyn, New York.

This pamphlet furnishes illustrative cases. It is well worthy of examination.

CHEMICAL AND PHARMACEUTICAL.

'Diruit, ædificat, mutat."—HOR.

Chloral Hydrate.—As an indication of the quantity of hydrate of chloral used in England since its introduction about two years ago, Dr. Richardson states, on what he has every reason to consider reliable authority, that one commercial house alone has supplied the English drug market with ten tons

of the substance; three other houses have, it is supposed, supplied as much; so that fifty tons' weight have been, on this calculation, sent out—an amount which, divided into grains, would yield over thirty-six millions of narcotic doses to England alone since August, 1869. The sale of the hydrate of chloral to medical men is considered as declining, while the general sale is, perhaps, increasing. Corresponding with this state of things, the Medical Profession is becoming conversant with cases of what may not improperly be called "chloral drinking," and in which serious and singular symptoms are presented.—*Ex.*

Formation of Nitrate of Ammonia in Respiration.—The formation of nitrate of ammonia in respiration may be shown by the following experiment: On breathing for a few moments from the chest into a large glass vessel, the sides of which are moistened, and after rinsing out the glass into a test tube, the presence of free nitric acid is shown by the ordinary reägents (iodide of potassium and dilute sulphuric acid). The presence of ammonia is shown by the usual reägents. M. Struve has remarked that the formation of nitrate of ammonia, in the act of respiration, is more feeble in the morning before dinner than in the afternoon. He concludes from this that the nitrogen in the atmospheric air does not play an entirely passive role in respiration, which is evidently contrary to the experience of M.M. Regnault and Beiset. It is natural to suppose that nitrate of ammonia present in saliva plays an important part in digestion. *Ex.*

Sulphurous Acid.—The value of sulphurous acid gas as a disinfectant has been established by many and crucial experiments, and is generally admitted. This agent is specially recommended by medical officers of health. There is a want of convenient methods of applying it, and especially of applying it in a limited space and to a definite and measured degree. Mr. John Gamgee has called attention to the convenience of employing it as disengaged from an alcoholic solution. Cold alcohol will, he states, take up three hundred times its bulk of sulphurous acid gas; and where, for example, it is desired to saturate a box of

clothing with this gas, it is sufficient to drop a certain quantity of its saturated solution of alcohol into the floor of the box, and a large definite quantity is set free by the evaporation. The suggestion is one of importance, and seems to us worthy of attention. The solution of sulphurous acid in alcohol could easily, and probably with advantage, become a general article of pharmaceutical commerce for medical and sanitary use.—*Brit. Med. Journal.*

Ventilation.—Dr. Henry Howard, Superintendent of the Provincial Lunatic Asylum at St. John's ("Canada Medical Journal"), from repeated experiments on "ventilation," comes to the following conclusions: 1st. That the proper height at which to expel foul air is between seven and ten feet from the floor. 2d. That external air, when admitted above the head inwards and upwards, causes no sensible draught upon the person. 3d. That this air, when colder than the internal air, falls down toward the floor, and while passing through the heated and foul air, though it becomes in some degree heated, is impregnated but very slightly with impure gases; it, after descending, floating up the impure gases; in fact, there are two distinct currents, the foul gases and heated air *ascending*, the cold pure air *descending*. In answer to the question, "How can pure air pass through impure gas and not become impregnated with it?" he states that air is a mechanical mixture, and not a chemical compound. He wishes it to be particularly understood that heated air is not foul air, but that heated air and heated carbonic acid and sulphuretted hydrogen gases are lighter than pure cold air, and consequently are floated up together; the heated pure air, however, ascending much higher than the heated impure gases.

New Method of Making Beef-tea.—By Dr. H. C. Wood.—In order to meet the daily felt want of concentrated fluid-meat food, a want not supplied by beef essence as ordinarily made, I have invented the following process, and found in practice that it works well. Take a thin rump-steak of beef, lay it upon a

board, and with a case-knife scrape it. In this way a red pulp will be obtained, which contains pretty much everything in the steak, except the fibrous tissue.

Mix this red pulp thoroughly with three times its bulk of cold water, stirring until the pulp is completely diffused. Put the whole upon a moderate fire, and allow it to come slowly to a boil, stirring all the time to prevent the "caking" of the pulp. As soon as it has boiled, remove from the fire; season to taste. In using this, do not allow the patient to strain it, but stir the settlings thoroughly into the fluid. One to three fluid ounces of this may be given at a time.—*Ex.*

Compressed Leather Scraps.—An article in Dingler's "Polytechnic Journal" gives a process for utilizing leather shavings and scraps. They are first cleansed, then soaked in water containing 1 per cent. of sulphuric acid until the material becomes soft and plastic, and afterwards compressed into blocks, and dried by steam. In order to soften the blocks, one pound of glycerine is added to 100 pounds of material; they are then passed through rollers, and brought to the proper thickness to be used as inner-soles of boots and shoes.—*Ex.*

Water-Proof Starch is the subject of a French patent, and consists in passing the goods, after being properly starched, through a bath of chloride of zinc at a temperature of about 60° Fahr. The starch will then remain in the clothes after several successive washings.—*Scientific American.*

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

Treatment of Hydrarthrosis by Aspiration.—Dr. Dieulafoy has recently published a pamphlet on this subject in Paris, in which he reports a number of cases, both acute and chronic, traumatic, rheumatismal, and without obvious cause, in which

aspiration of the knee-joint was practiced with good result. The following are a very few of the cases given: Double hydrarthrosis of fifteen days' duration, attended with great pain, in a man aged forty-seven. Between the 26th of October and the 29th of November five operations were performed on each knee; the liquid reproducing itself so rapidly that in twenty-four hours 120 grammes of fluid would recollect in each joint, and the pains, which would at first cease, would reappear with the effusion. The application of ice was found efficacious.

Hydrarthrosis of six months' duration, of right knee, without obvious cause, in a conscript. Thirty-five grammes were taken out. The man then walked ten kilometres (about six miles) without suffering. Twelve days afterwards the liquid had reappeared, 40 grammes were evacuated, paintings with tincture of iodine were practiced, and no further effusion occurred.

Rheumatic hydrarthrosis of the left knee, of eight days' duration, in a man aged thirty-eight. Seventy grammes of fluid, containing a large amount of leucocytes were drawn off. Bandages were applied, and three days afterwards, the effusion having reappeared, 45 grammes of liquid, containing fewer leucocytes, were drawn off. Two days after 30 grammes were evacuated; compression; cure after nine days' treatment.

The operation is performed as follows: The piston of the aspirateur is drawn partly up, so as to form a vacuüm, and the needle connected with it, by means of a short caoutchouc tube, is pushed a little way into the tissue at the designated spot, and the cock of the aspirateur turned. The needle is then slowly pushed into the joint, and when the fine jet spouts into the cylinder, the kneedle is known to have fairly entered, and motion of it ceases. The aspiration is then continued until no more liquid can be obtained; no pressure is to be made on the joint. A drop of collodion is to be put over the little hole the moment the needle is withdrawn. A simple spiral or number-of-eight bandage is then applied, the limb raised slightly, and quiet enjoined. If in twenty-four hours marked effusion has occurred,

the operation is repeated, if not, the pressure is reäpplied. Dr. Dieulafoy claims that the operation is harmless, painless, and diminishes greatly suffering—shortening the time necessary for cure.—*Bulletin Gener. de Therap.*, January 15, 1872.

Consanguineous Marriages and Idiocy.—Dr. Mitchell, of the Edinburgh College of Physicians, says of idiocy and its relations of marriage to consanguinity, that in more than sixty per cent. of the cases of idiocy occurring in the British Isles, the condition is acquired, not congenital, and is due to one or other of the numerous accidents to which children are liable. He disapproves of unions of near relations, but states that proof is wanting that any evil resulting from them is dependent on a mysterious influence intrinsic in the consanguinity itself. His objections to marriages of blood-relations proceed rather from a consideration of the increased risk in such unions of the transmission of morbid peculiarities. Thus, if a deaf-mute is married to a person in possession of the faculties of speech and hearing, the chances of having a deaf-mute child will be as 1 to 135; but, if deaf-mutes intermarry, the chances of having a deaf-mute child rise to 1 in 20.

Speaking of the causes which produce idiocy after birth, Dr. Mitchell points out that purely intellectual exercise, in excess, is more detrimental to children than purely emotional exercise, in excess, but the reverse holds true in the case of adults. In children as well as in grown-up persons, disorder of the moral faculty, as a rule, precedes intellectual disorder, and overteaching of pupils is first apparent in change of character. Prolific causes of idiocy are scarlet fever, whooping-cough, and measles, diseases to which thirty per cent. of all the idiots and imbeciles in Great Britain are due.—*Pop. Science Monthly.*

The Origin of Pus.—Drs. Hoffmann and Langenhans have found ("Virchow's Archives," April 11, 1872,") that cinnabar, when injected into the blood-vessels, will be deposited in the cells of the connective tissue. Under ordinary circumstances, the amount deposited is so small that it might readily escape

detection, but an accumulation of the cinnabar may be produced by exciting inflammation in a part. While, however, cinnabar exists, under these circumstances, in large amount in the cells of the connective tissue, the pus furnished by the part will be found to be entirely free from it. They are, therefore, inclined to the belief that the connective tissue cells do not play an active part in the formation of pus, and agree with Cohnheim in thinking that up to the present time it has not been satisfactorily demonstrated that the pus-cells have any other source than the blood-vessels.

Pulvis Glycyrrhizæ Compositus.—The want of a mild but effective aperient, of convenient form and without any of the disagreeable concomitants, induces Dr. David Page to call attention in "The Practitioner" for May to the compound licorice powder of the Prussian Pharmacopœia, first introduced into practice in Scotland by Dr. Waburton Begbie. It is composed of the following constituents, so prepared as to form when incorporated an almost impalpable powder: Senna leaves, ℥vj.; licorice root, ℥vj.; fennel seed, ℥iij; sulphur, ℥iij.; refined sugar, ℥xviij. The usual dose is a small teaspoonful at bedtime, in water, in which it is easily mixable, forming an agreeable draught. Children readily take it with the belief that it is a sweetmeat. The motions produced by this powder are soft but well formed. It will be found especially useful in the treatment of constipation resulting from atony of the bowel.—*Ex.*

Hypodermic Injection of Ergotin in Hæmoptysis.—Dr. C. Currie Ritchie, of Manchester Eng., quoted in the "Practitoner," has had remarkable success in the treatment of pulmonary hæmorrhage by this means. Reflecting on the action of ergot in contracting the muscular fibres, and thus lessening the calibre of the blood vessels and diminishing the volume of blood, and taking in view its therapeutic action in aneurism, he inferred that it would be a powerful agent in producing hæmostasis and arresting hæmorrhage. In eight cases of hæmoptysis he used the injection with uniform success, the blood

ceasing to flow after a few minutes. The solution employed consisted of three grains of ergotin dissolved in equal parts of glycerin and rectified spirits. Very little local irritation was produced by it, though the solution in distilled water proved highly irritating.

Atomized Turpentine Water in Chronic Bronchitis and Consumption.—Dr. S. Goodwin, of Victoria, Texas, writes us that he has lately been using turpentine water, inhaled by means of an atomizer, with signal advantage in cases of chronic bronchitis and consumption, where there was copious expectoration of either mucus or pus, with hæmorrhage or violent cough. The turpentine water is prepared from spirits of turpentine by magnesia, in the same way that aromatic waters are commonly prepared by druggists.—*Med. News—New Remedies.*

Railway dust is, according to a recent analysis, composed chiefly of iron. Not less than fifty per cent. of a quantity that collected on a newspaper was found to consist of fine particles of this metal, which were easily separated by a magnet. The rest is chiefly finely-divided fragments of cinders.

MEDICAL NEWS.

'Nulla dies sine linea."

Publication of the "Canada Medical Journal" has been suspended.———Dr. John T. Darby has resigned his Chair of Anatomy and Surgery in the Medical Department of the University of South Carolina. This resignation is the result of misrule on the part of the Trustees, and distrust of their honest administration in the future.———Poor Dr. Jerome Cochrane, the champion of the Mobile Medical School, is in great trouble. He has been publicly charged, as Health Officer, with bribery and corruption and mismanagement. Seeking to obtain an acquittal of the charges by a signature asked at the point of the revolver, the "besieged party" draws his revolver, snatches the paper written by Cochrane from him, and now uses it in evi-

dence against the unfortunate officer. From present appearances it seems impossible for Dr. Jerome Cochrane to escape ejection from the Health Office, from his Faculty, from medical circles, and from society. It is less than a year since this unfortunate knight was charging Professor Eve, and many others, with moral inconsistency. Alas! how often it is that man steals the livery of heaven to serve the devil in. The future for Cochrane is black indeed; coventry or the State penitentiary.———Dr. Thomas E. Jenkins has resigned the Chair of Materia Medica and Botany in the Louisville College of Pharmacy. Dr. Emil Scheffer has been elected to fill the vacant chair; an admirable selection. This College is worthy of the highest confidence and success. Diehl, Kastenbine, Schmidt, and Scheffer; all efficient and accomplished teachers.———Celluloid is the new material now used by dentists as a substitute for rubber. It is made of gun-cotton, and is the best material in use for the purpose named. It is light, strong, elastic, free from mineral ingredients, and can be so colored as to imitate the gums most accurately.———*A Bran-new Anæsthetic.*—A Louisville clergyman went last month to meet a frail member of the female sex at Chicago; he traveled with her to Louisville, occupying the same birth in the sleeping car. She remained here under his care several days, and then returned, escorted by him. He now claims that he was drugged, and did all that he did while under the influence of a mysterious potion! Can any reader remember the medicine that produces such an effect?———Virginia has instituted a State Board of Health, Professor J. L. Cabell president, and Professor L. S. Joynes permanent secretary.———A Medical College has been organized in Wilmington, N. C. The announcement has not been seen, but it is said to be in the hands of an able and efficient corps of physicians.———Those interested will learn with regret that Professor T. Gaillard Thomas has resigned the Chair of Obstetrics in the Medical College of Physicians and Surgeons, New York. This is a source of serious injury to this old and most excellent Institution.

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

Noble Old Harvard.—American Medical Colleges have, for twenty years, waited upon that impracticable and helpless Body, the American Medical Association, to solve the intricate problem of medical education in American Medical Colleges. This unfortunate, inefficient, and blundering Body has resolved, and reresolved many times over, that something must be done; but after indicating what should be done, like the British corporation, satirized by Dickens, it has always shown "how not to do it." It has blasted every hope of the Profession in this direction, and, after a fatuous and foolish frittering away of twenty years, it proves to be like the giant Frankenstein of romantic creation, too large for any of the useful purposes of life. A gigantic Body, unwieldy, inefficient, and utterly useless for doing that work for which it was created, the direction and improvement of American medical education. All have realized these melancholy facts, and while all have gazed helplessly and confounded at the ruin, much as children would gaze helplessly at some magnificent vase or statuary which had been smashed by their reckless toying, noble old Harvard has gone to work, and seems from the nettle of professional danger about successfully to pluck the flower of professional safety. The reader should carefully examine the method proposed and defined by her in the July number of this Journal. All who have the good of the Profession at heart, will watch the progress of this movement with anxiety, with earnestness, and with the sincerest wishes for its success. All will aid in holding up and maintaining this movement, and all will, from its very inception, sincerely wish for the fullest success to NOBLE OLD HARVARD.

"Taking it Easy"; or, "Waiting for the Tide."—It is learned that the Transactions of the last meeting of the Kentucky State Medical Society will actually be published; after awhile. Many

had feared that the conceptions committed to the Body which was to bear them, and which is now in a state of comfortable gestation, had perished, on account of their feebleness; all will learn with pleasure, however, that these conceptions are still viable, and that the Body which is carrying them so ably, will, after a tedious labor, be finally delivered.

Hawthorne has drawn a picture of "taking it easy," as follows: Old Somnus asleep in his coach of state, drawn by a team of tortoises driven by a sloth; with a Dodo as footman behind; but this would be a "lightning express," when compared with the team bearing the precious archives entrusted to them. A better picture of them would be that drawn by Washington Irving of "waiting for the tide" near Manhattan. A Dutch lugger is stranded on a bar; its sails are flapping; the mates lie asleep on the deck, while the unruffled old skipper smokes his pipe on the taff-rail; all waiting for the tide, or some one to help pull them from the place of their stranding.

Those interested may rest in peace. The Transactions will surely be published. To save labor, wrappers and stamps, they may be delivered at the time and place of the next meeting; but they certainly will be delivered by that time, if not earlier. This mode of delivery would give one great and needed merit to the issue, originality; and to secure this, all can afford to wait upon those who are thus "taking it easy" and "waiting for the tide."

While similar committees have acted with unseemly haste and precipitancy, Drs. Brandeis, Satterwhite, and Goodman, are moving with a stateliness and a pace becoming to the able and dignified Body which they so gracefully represent.

Prostitution of the Medical Diploma.—Dr. Stephen Rogers, of New York, calls attention, in the "New York Medical Record," to the fact, that the Faculty of the Medical Department of the University of New York have recently granted their diploma to a street-car and newspaper advertiser of "pills sure to cure female obstructions." The Faculty have been so closely and firmly attacked by Dr. Rogers, that they have vir-

tually admitted, through the editor of the "Record," the charge to be true, but they affirm that they did not know the character of the applicant "until the very eve of the examination, when it was too late to refuse him the privileges of the Institution." It must be admitted that such a plea is very ridiculous and puerile, but poor as it is, Dr. Stephen Rogers destroys it, by denying the truth of the assertion. This Faculty have, therefore, by their diploma, affiliated with one of known and acknowledged bad character; prostituting thus the medical diploma, and publicly and officially debasing the degree of Doctor of Medicine. They have virtually recognized and affiliated with quackery in its most criminal form.

The Shortest Route to a Medical Degree on Record is that taken by Mr. Jacob Geiger, of St. Joseph, Mo., before he received the degree of Doctor of Medicine in the Medical Department of the University of Louisville. As many will, of course, feel curiosity on this subject, the route taken by Mr. Geiger will be briefly described: He matriculated in the Louisville Medical College October 2, 1871. He had never attended a course of lectures elsewhere. He remained in this College until February 1872, and then left, because, desiring to come forward for graduation, he was not allowed to do so, as he could not, *after a period of four weeks granted for the purpose*, furnish any satisfactory evidence of his having practiced for four years; this being the equivalent of a course of lectures in American Colleges when a student applies for graduation. Mr. Geiger, from his entire inability to furnish this necessary evidence, was denied the privilege of coming forward for graduation; indeed, not only was he unable to show that he had practiced for four years, but he had, as was known to the Dean, admitted to his classmates that he had not practiced for this period. Unable to effect his purpose and obtain a degree in this College, he left, in February 1872, and entered the Medical Department of the University of Louisville, where he was allowed to graduate; actually receiving his degree a few weeks after entering that Institution, and during the month mentioned.

The University Faculty claim to have (and have) a certificate signed by two physicians, stating that Mr. Geiger had practiced for four years. This school requires that the course immediately preceding the degree should be attended in its halls. Although Mr. Geiger never complied with any of their published requirements for graduation; though he was in attendance at their school nominally but four weeks, and actually most of this time in the Louisville Medical College; though it was known that he left the last-named College because he could not furnish the least reliable evidence of his being entitled even to an examination for a degree in any respectable Medical College; still it can be understood how by reckless and culpable, if not criminal, administration, he was allowed to come forward for graduation before the University Faculty. But when, in the catalogue of the Louisville Medical College, it was recently stated that this unfortunate young man had perpetrated a fraud upon those who had conferred the medical degree upon him, it is indeed impossible to understand how any Medical Faculty, claiming to be respectable, could fail to take prompt and swift action for the vindication of its professional character and honesty. Any College entitled to a respectable position, or to the least confidence, would cancel publicly and promptly a degree obtained by fraud, and thus manifest a proper regard for the purity of its official seal and the honesty of its corporate degree. Instead of doing this, it is officially boasted upon the streets, that the Faculty are protected by a convenient certificate signed by two physicians. A certificate whose truth is denied and repudiated even by the candidate who offered it; a certificate which is well known to the Faculty to be suspicious, and not such as can bear the most superficial investigation. The facts in this case, as any one can learn, and as this Faculty should of course have learned, are briefly these: Mr. Geiger commenced the study of medicine in 1870, having been for some years a clerk in a drug store. He entered in April, 1870, the office of his preceptor Dr. (?) Bishop, of St. Joseph, Mo. In October, 1871, he matriculated in the Louisville Medical College. In December, 1871,

he asked to come forward for graduation. He was allowed four weeks to show that he could do so honestly and properly. He failed utterly, at the end of that time, to show a single certificate that he had ever done much more than prescribe, across the counter, as a paid clerk in a drug store. He was then denied the privilege of coming forward for graduation in the Louisville Medical College. He left this College in January, 1872, and went to the University of Louisville, which, after having him ostensibly four weeks in its walls, gave him the degree of Doctor of Medicine. As he could not obtain a certificate of four years' practice from his preceptor, he repudiates him when matriculating at the University, and appears (this youth, after less than two years' study) in the University catalogue matriculated as a "practitioner"!!!

When informed of the fraud and deception practiced upon them, instead of doing what every respectable Faculty would do, cancel the degree after investigating the facts, they *boast that they are protected by a certificate.* A certificate known by themselves; by Geiger; by his classmates; by residents of St. Joseph, Mo., (Geiger's home); and by any one who cares to learn the truth to be untrue. Any reckless Faculty may be swindled when over-anxious to confer degrees; but no respectable Faculty can or dare allow a degree obtained under false pretenses to remain uncancelled; even if in cancelling it they be driven to the act by the whip of public opinion, and by the voice of an outraged Profession.

Mortuary.—Died very suddenly, on Monday, 15th July, at half-past 5 o'clock, P. M., Robert Eden Peyton, M. D., at his residence (Yelverton), near the Plains of Fauquier county, Va.

Journals Wanted.—Read the advertisement of the Surgeon-General of the United States Army, in this number.

BOOKS RECEIVED.

The Vienna Treatment of Venereal Diseases. By H. M. Henry, M. D. William Wood & Co., New York. 1872.

Memoranda on Poisons. By the late Thomas Hawkes Tanner, F.L.S. Lindsay & Blakiston, Philadelphia. 1872.

Dr. Rigby's Obstetric Memoranda. By Alfred Meadows, M. D. Lindsay & Blakiston, Philadelphia. 1872.

Third Annual Report of the State Board of Health of Massachusetts. January, 1872.

Forth-sixth Annual Report of the Massachusetts Charitable Eye and Ear Infirmary. February, 1872.

Lithotomy and Lithotrity. By Jourdan Buck. William Wood & Co., New York. 1879.

The Question of Quarantine. By Alfred S. Carroll, M D.

The Medical Intelligencer. Lindsay & Blakiston, Philadelphia

Third Clinical Report of the Rotunda Lying-in Hospital for the year ending November 5th, 1871. By George Johnston, Edinburgh. From the Author

In Memoriam of Mrs. Isabella Graham Duffield, of Detroit, Michigan. From Mrs. Isabella G. D. Stewart

An Address Delivered at the Commencement of the Medical Department of the Washington University of Baltimore. By H. Clay Dallam, Esq. From C. W. Chancellor, M. D.

Introductory Lecture Delivered to the Class at the Medical College of Alabama, November 14th, 1871. By George A. Ketchum, M. D., Mobile, Ala.

Annual Report of the Surgeon-General of the United States Army. 1871

Nine Photographs of Histological Preparations of Sunlight. By Assistant Surgeon-General J. J. Woodward, U. S. A., Washington, D. C.

Catarrhal and Croupous Inflammation of the Mucous Membrane. By Samuel G. Armor, M. D.

Electricity in its Relations to Practical Medicine. By Moritz Meyer. Translated by William A. Hammond, M. D. D. Appleton & Co., New York. 1872

Physiology of the Soul and Instinct as Distinguished from Materialism. By Martin Paine, A. M., M. D., LL.D. From Harper & Brother, New York. 1872

The Urine and its Derangements. By George Harley, M. D., F.R.S. From Lindsay & Blakiston, Philadelphia. 1872

Bromide of Potassium and Bromide of Ammonium. By Edward H. Clarke and Robert Amory. From James Campbell, Boston. 1872

Annual Announcement of the Toland Medical College, San Francisco, California. Session of 1872

Report of the Meeting for the Organization of a Territorial Medical Society, held in Denver City, Colorado, September, 1871. From W. H. Williams, M. D.

Administration of Chloroform by Deglutition. By Jerome Cochrane, M. D. From the Author

Insufficient Vaccination. By William Henry Cummings, M. D., Atlanta, Ga. From a friend

Catalogue of Second-hand and Valuable Medical and Surgical Works. James Campbell and Co., Boston, Mass

The Ethics of the Medical Profession, read before the Sacramento Society. By Joseph L. Montgomery, M. D.

Diseases of Infancy and Childhood. Second Edition. By J. Lewis Smith, M. D. Henry C. Lea, Philadelphia. 1872

Transactions of the Twenty-first Anniversary Meeting of the Illinois State Medical Society, held at Peoria May 16th, 1871

Annual Report of Quarantine Operations off the Coast of South Carolina for the year ending October 31st, 1871. Robert Lebby, M. D., Health Officer.

A Treatise on Disease of the Bones. By Thomas M. Markoe, M. D. D. Appleton & Co. 1872

THE RICHMOND AND LOUISVILLE

MEDICAL JOURNAL.

VOL. XIV. OCTOBER, 1872. No. 4.

ART. I.—ON THE NATURE AND BASIC TREATMENT OF PYREXIA. By W. HUTSON FORD, M. D., Professor of Physiology in the New Orleans School of Medicine.

I.—*The Cold-Water Treatment.*—One who watches the signs of medical advance, cannot fail to observe the close attention now directed towards the theory and treatment of fever. Much interest has of late been excited by attempts, more or less successful, to obviate some of the chief dangers of the febrile state by cold bathing. This measure, which seems to be a revival of the practice of the brothers Hahn, of Leipzig, in the seventeenth century, and of Currie, of Liverpool, in 1787, in a modified form, has for some years been practiced on the Continent, and, within the last twelve months, has been brought prominently before the medical world by Wilson Fox, Clifford Albutt, and several other English practitioners. In the "Lancet" for November, 1871, Dr. Fox detailed the treatment of two cases of rheumatic fever, in one of which the temperature reached 107.3°; and in the other 110°; yet a week afterwards the patient in the last case was considered safe, convalescing three weeks later, while in the first, convalescence was established on the sixty-first day. No doubt these patients would have suc-

cumbed but for the use of cold water. The employment of the cold bath seems limited by Dr. Fox and his followers to cases where the heat rises beyond 106° or 107°; on the basis of determinations of Wünderlich and others, that whenever the temperature passes that point, a condition denominated "*hyperpyrexia*" may be regarded as present or imminent, which nearly always leads to a quickly fatal result. This fatality is attributed to the occurrence of systemic changes quite different from those belonging to the customary ranges of pyrexial reäction; consisting in paralysis of the blood-corpuscles, and overwhelming tissue-change running into sepsis. The use of cold water in this condition is highly rational, for the danger of such high temperature cannot be over-estimated. Whether the reduction of temperature be effected by the application of bottles filled with ice-water, as in a case reported by Dr. Albutt, to the body of the patient; by the bath at 60° or 70°, as in Sidney Ringer's method, repeated from time to time; or by the immersion of the patient into water nearly at the temperature of his own body, afterwards slowly cooled to 70°, or even 60° in the course of thirty or forty minutes—the general effect is similar—the excitement of the circulatory and nervous systems is promptly abated. By "the intermittent method, with gradual reduction of temperature," the depression of systemic heat induced is more complete apparently than in other modes of bathing; but in all, the generation of heat is subdued for a variable period after the bath; nevertheless, as the heating processes are only checked, the temperature of the body soon rises again, and a repetition of the bath soon becomes necessary. By frequent bathing, however, the temperature may be readily maintained in the neighborhood of 100°.

In the continental mode of bathing, the patient is kept in a bath only a few degrees colder than his body, sometimes for one hundred consecutive hours.

By any of these methods the temperature may be restrained, and they are equally productive of good results in the cases to which they are adapted; but to regulate the bodily heat so

nicely, during the course of a long fever, demands a degree of personal supervision on the part of the medical attendant, thus far very seldom bestowed on their patients by men in full practice. While the system by "continuous immersion," is less irksome to the patient, and less troublesome to his nurses, it is, nevertheless, attended by many inconveniences. The intermittent system, unless closely watched, is not devoid of danger. As for the sudden immersion into a plunge-bath of a patient, at a high temperature, who has been sick some time, it is very often, as Clifford Albutt wisely suggests, a "horribly risky business." This use of cold water is analogous to "packing" in the cold-wet sheet, of which I have had some experience, and which I have seen followed by death with intense pulmonic congestion in a few hours. In this case, which was one of yellow fever in Charleston in 1854, the fever had already run very high for two days, and the pulse was very compressible. In a previous case, however, where the pulse was stronger and the heat very great, the patient having been sick about twenty-four hours, the "packing" renewed two or three times at intervals of six hours, was followed by almost immediate convalescence. Since the occurrence of these instructive cases, I have been exceedingly cautious in the sudden application of cold, in any form, to the body generally, or any extensive area of it, where a febrile movement has continued long enough, or has been severe enough, according to the special nature of the disease, to render it probable that the blood is impaired in quality, or that any congestion of important viscera is at hand. With respect to the recent modes of practice, therefore, for "hyperpyrexia," as an extension of this remark, I must express the opinion, that whenever the fever has run high, or has lasted a certain time, differing, of course, in different pyrexiæ; and especially where there is any symptom of defibrination or of corpuscular paralysis of the blood, or any sign of congestion of important organs or membranes, however slight, neither the plunge-bath, the cold packing, nor the intermittent graduated bath, nor the application of bottles or sacks

filled with ice or ice-cold water, is admissible. We must limit ourselves to cold sponging, to cold applications to the head, and with much prudence to the cold affusion. In these cases the "continuous bath," at a temperature of 80° or 90°, might be very useful.

The cold-water treatment, which I have briefly described, and whose use is now extending through the English hospitals, is professedly aimed at the *"hyperpyrectic"* state. On the Continent it has been applied in various ways by highly competent and reliable men, who are unanimous in their expressions respecting its utility.

The reduction of febrile heat has been recognized as a desideratum from time immemorial. The terms we habitually use to designate the febrile state, imply heat, and naturally suggest the use of cold water. Hippocrates, Avicenna, Celsus, used cold water or snow, or vine leaves dipped in cold water, applied to the pit of the stomach, Paul Ægineta used cold baths, and so forth, down to the practice of De Hahn, at Breslau, in an epidemic of typhus, and of Currie in the hyperpyrexia of scarlatina, followed by Gregory. While a portion of the medical fraternity has employed cold and cooling remedies against fever, the rest, under the influences of hypotheses not yet altogether extinct, adopted different and even contrary methods. Nevertheless, the partial use of cold water has already proved so acceptable to the patient, and so plainly beneficial, that it has been more or less advocated from the earliest times, although an attempt has been made to render it a substantial or fundamental method of practice, perhaps. The use of cold, even in this restricted way, has generally been limited to uncomplicated fevers. It is to the treatment of cases where these customary methods of abating the temperature notably fail, and where the heat mounts to a dangerous height, that the various systems of cold bathing are practiced, as a principal therapeutic resource, by their several advocates. The continued maintenance of a low temperature, *ab initio*, by the use of the bath, is not contemplated by any of these methods. That a reduction of tem-

perature to its normal standard is always desirable in fever, seems to be *suspected only* by a few. Systematic bathing is instituted in cases alone where the heat runs high, and encroaches upon the "*hyperpyretic*" grade. This modern use of cold water is, therefore, partial, for *hyperpyrexia* is quite an unusual phenomenon. Medical men are generally called upon to treat pyrexia of a grade altogether lower, where the temperature ranges from 100° to 104°. It is not usually deemed necessary or advantageous to reduce the heat in such cases; nay, it is even supposed by those who are still influenced by the Hippocratic doctrine of "*cocta non cruda evacuenda sunt*," that such interference with the reäcture processes is full of danger, and decidedly objectionable. This hypothesis is clothed with some plausibility by the fact that the danger of pyrexia *is not altogether expressed* in thermometrical degrees, however unfavorable long-continued heat may be, for there are lethal conditions of fever which are unaccompanied by notable increase of temperature. In the worst cases of typhus or yellow fever, the heat scarcely rises above the normal grade, and even when reäction is most developed, seldom exceeds 106°, at least according to my own observation. In acute rheumatism, pneumonia, and the exanthems, on the other hand, diseases whose prognosis is so different, this temperature is exceeded. While estimating the injurious effects of heat, neglecting, for the moment, other causes of exhaustion, we must not omit to consider the condition of the system upon the invasion of the fever, its *enhanced susceptibility to the disturbing influences of heat*, and the rate of nutrition during the progress of the disease. The destructibility of the tissues and fluids seems to differ so much in various pyrexiæ, owing, partly, to previous changes in the organism, in the midst of which fever is kindled, and partly, perhaps, to a variation in the activity of the prime cause of fever, that the same grade of heat is indisputably more dangerous; more effective in the induction and maintenance of destructive processes in one form of fever than in another. It is obvious, therefore, that the lethality of fever by no means varies strictly

with the temperature, while it is true that the highest and lowest grades of heat are equally fatal. Heat is a prime characteristic of power, and is, simultaneously, the result of destructive change, and the principal agent in the indication of all the metamorphoses of the body, as it is likewise in the promotion of physical decomposition. While very high grades of heat, as in "*hyperpyrexia*," threaten to overturn the organic edifice by an almost explosive decomposition, lower grades of heat, if prolonged, or when manifested in systems, as above alluded to, peculiarly liable to its influence, induce a fatal exhaustion by expending the resources of the body in fruitless excitement. Remedial measures must therefore be directly addressed towards a reduction of the heat in "hyperpyrexia"; while in the usual grade of fever it is equally important to do so, not on account of imminent peril, but with a view towards repression of excitement, and conservation of force. I cannot admit the necessity of any "coction" of the fluids or solids to a complete restoration of the systemic balances. "Reäction" may progress through its normal sequences with perfect security at a temperature scarcely differing from that of health; a statement which is based on my personal experience in a great variety of pyrexiæ. Any pyrectic temperature over 100°, or even 99°, is quite unnecessary, even in the mildest forms of fever, and is wasteful of the resources of the economy. In the severer pyrexiæ, a temperature above that of health, especially if accompanied by increased cardiac action, is fraught with grave danger; it not only exhausts organic excitability without the induction of any useful result whatever, but simultaneously puts in motion an endless series of pathological movements of the worst tendency. These statements are in no way hypothetical, as I have said; they have been gradually developed, in the course of years, in my own practice, and are corroborated by that of my acquaintances, and of many practitioners on this side of the Atlantic.

Of late I have perused a condensed statement of Dr. C. Murchison's views on the nature and treatment of fever, and while I differ from him in some very important matters, I am sure

his conclusions with regard to therapeutical indications and agents, point in the right direction, especially in the matter of reduction of pyrexial temperature. In the course of my experience, which dates back to 1857, on this subject, I have found it quite easy to effect this desirable reduction, and to maintain the bodily heat, in nearly all cases, in the neighborhood of the healthy standard. When this is accomplished, so many of the most marked features of the pyrectic state are removed, mitigated or prevented from manifesting themselves, that diseases of very different essential nature, accompanied by pyrexia, become distinguishable only by their subjacent organic lesions, or by certain proclivities of the fluids, or of the parenchymatous and free corpuscular elements. While the fever is not truly *abolished*, as the causes remain which have induced it, ever ready, upon the cessation of the artificial influence, to establish it again, the cortège of symptoms belonging to this condition is interrupted, so that the usual features of fever are scarcely recognizable. This remarkable condition of things can be readily induced by several drugs, as is now well enough known, at least to American physicians. I have brought it about, as a rule, with as little delay as possible, in all but the mildest forms of fever, whenever the acceleration of the heart is accompanied by notably increased heat; and in many cases where the heat is scarcely above the normal grade, if the heart's action is abnormally rapid; provided the pulse be not too feeble, nor the forces of the economy as yet on the point of exhaustion.

My attention was first directed to the systematic reduction of pyrexial temperature by the following cases:

In June, 1857, I was called to treat a negro lad, aged nineteen, a house-servant, sick of typhoid fever. Repeated epistaxis, a little diarrhœa, decided "*abattement*," and headache, had led me to suspect the invasion of typhoid fever some days before. He had been sleeping in an apartment twelve by thirteen feet, with but one door and one window, on the ground floor, and had habitually closed both door and window at night.

Upon entering his room one morning, I perceived the ammoniacal odor characteristic of ill-ventilated apartments; and at my instance the wall beyond his bed was promptly pierced, and a window framed in, which, however, opened upon a neighboring court-yard. A few days after this he was taken with fever, which I interrupted by an emeto-cathartic. Some days later, the disease set in regularly, and lasted about four weeks, terminating fatally.

At the onset of the fever I caused him to be removed to an airy apartment in the second story of another building, looking towards the South, and occupied by him alone.

After the first few days, in accordance with my wishes, the treatment was conducted in consultation with one of the most prominent and experienced physicians of Charleston, S. C. It consisted of quinine as a basis, cold sponging, the cold affusion, and a regulation of the diarrhœa, with the usual stimulants and derivatives. There was a great deal of stupor, accompanied at night, especially, with muttering delirium. The fever ran high, with much heat, which resisted the most assiduous application of cold water.

Very soon after this, another case appeared in the same family, in a child of eight years, which I likewise treated in occasional consultation with the same gentleman. The progress of the fever was more rapid than in the former case, lasting about eighteen days; like the first, it terminated fatally. Quinine was given at the rate of twenty grains a day; cold sponging, and the cold affusion, and cold cloths to the head, being employed as before. Mercury was administered very sparingly, and only within the first week, in the form of pil. hydrarg., as a mild evacuant. The heat resisted all cooling measures, and, as in the former case, the heart's action continued very rapid throughout the disease.

It was plain that the modes employed for withdrawing heat had been totally inadequate, and that the internal temperature of the body had remained quite unaffected by the external use of cold water. In neither case did perforation of the intestine

occur, nor diffused pneumonia, nor cerebral inflammation, nor any noticeable local lesions, except those of the ileum proper to the disease. These patients had died, simply worn out; the generation of heat at the expense of the tissues had been constant; the excitability of the nervous and muscular system had been finally exhausted, and death had resulted from an ultimate expenditure of the stores of force-generating material of the body, unsustained by concurrent replenishment, or, as we may say, in consequence of the processes of waste outstripping those of tissue assimilation. This asthenic death, I concluded, had been the direct result of so prolonged a maintenance of a high grade of temperature, which, nevertheless, had not, it seems to me, approached anything like a "hyperpyrectic" range.

Having clearly recognized the influence of heat upon the termination of these cases, and being moreover convinced that the internal medication had been quite incompetent to effect a reduction of the temperature, even when associated with such modes of cooling as experience justified me in employing, I cast about to discover some mode of *preventing generation of heat*, as I was satisfied that a mere withdrawal, however actively instituted, could never effect the desired purpose with the safety and continuity aimed at. The occurrence of other cases of typhoid fever in the same family, in quick succession, forced me to adopt another mode of treating the disease. The method which I instituted was in accordance with views of the nature of fever, based on some extensions of Liebig's doctrines, on determinations of Magendi, Bernard, the Webers, etc., and on current data in medical science; though all this received a notable impulse through experimental determinations of my own. The theory of fever which I framed at that time immediately controlled my practice, and continued to do so. Its practical application has been followed by most satisfactory results, and has elicited many important facts, which could not possibly have been foreseen, by which I have been enabled to modify it in some important particulars. I think it offers a fair explanation

of the main facts of the pyrectic state, competent to guide practice, not so much in the adoption of new remedies as in a more rational use of some already known, and indeed most extensively employed, and, likewise, in the clearer definition of the basial indications of fever which I think it affords.

In what follows I shall endeavor to sketch the principal features of the pyrectic state, and to bring into relief the remedial agencies able to fulfill the recognized indications. This will involve, perhaps, but little of a practical nature that is not already known, as a treatment of some form of fever quite similar to my own in certain respects has been long followed by many practitioners in this country, and is gaining ground slowly in Europe. The interpretations I shall make of the facts brought forward, will therefore be open to the criticism of experts on the same method who have used the same agents or similar ones, not only since 1857, but for many years before. All that I offer, consequently, are my views respecting the nature of the pyrectic state, and the results of my individual experience in certain methods of fulfilling its fundamental indications.

II.—*The Characteristics of Fever.*—Four prime conditions underlie and define the pyrectic state—viz:

a. Enhanced temperature.
b. Accelerated motion of the heart.
c. Hyposthenia of the intellectual and nervous forces.
d. Universal relaxation of the capillaries.

(*a.*) The augmentation of heat in fever is so conspicuous that it is scarcely necessary to do more than refer to it in the present connection. We may observe, however, that the temperature varies far more than was once imagined, both in different fevers, and in consecutive stages of the same fever, and that this variation is far more efficient in its influence upon the organic processes than was formerly suspected. An exaltation may be observed in the earlier periods at least of every typical pyrexia. In simple fevers the heat lasts throughout the disease,

convalescence occurring upon its disappearance. In graver affections the temperature declines, whether the malady terminates favorably or not, and considerably before its issue is determined very often. In some pyrexiæ, as in small-pox, or when secondary inflammation is lighted up, the heat recurs once or oftener. In the congestive forms of fever there is often an entire absence of this characteristic, death supervening before reäction. The patient's body becomes progressively cooler from the first; but in this case the typical pyrectic phenomena are never realized. With such limitations, which are altogether secondary, we are authorized to assert broadly, that the pyrectic state is naturally attended by an augmentation of the temperature of the body; in the mildest as well as in the most malignant forms, provided the malady runs its entire course.

(*b.*) The heart's action is accelerated during the chill, and even previous to it; this acceleration usually varies with the temperature. In simple fevers, and in typical forms of grave varieties, the acceleration of the heart is constantly observed, although the rate of its motion is by no means in correspondence with the gravity of the affection, as this is controlled by other influences, which sometimes tend directly to diminish the velocity of the cardiac movements, and even reduce them occasionally to a frequency much lower than that of health, or of very simple pyrexiæ. Nevertheless, it is equally true that an increased rate of heart's action, like temperature, is observable in every typical pyrexia, without regard to its origin, essential nature, or tendency.

(*c.*) Prostration of muscular and intellectual power is an unfailing attendant upon fever. Unlike the characteristics already considered, it varies directly as the gravity of the affection ante-dates the chill, and even the rise of temperature in many cases. It persists throughout, becoming daily more profound, and terminates in adynamia accompanied or not by ataxic phenomena; or ceasing to progress upon the restoration of the temperature and pulse to their normal standard, sooner or later disappears. The muscular force, in the *early stages* of fever, is

not sensibly impaired, so far as the real power of the tissue is concerned; this gradually declines, however, during the entire period of the fever. The power of the will appears to be affected very early, even before any other sign of fever appears. The patient reclines, is unwilling to make any effort; fears to put forth his strength, or, if he does so, is unconscious of an inordinate expenditure of volitional power, against which he is warned by instinctive feeling. Labor, intellectual or muscular, under these circumstances, is soon arrested by absolute prostration, with the development of other characteristic phenomena of the febrile state. It is plain, that whether muscular power be diminished or not, the centres of motion in the brain and cord are gravely affected. This prostration, interrupted only in appearance by the phenomena of excitement attendant upon "reäction," which are more or less marked and prolonged, according to the original and concurrent state of the forces, passes by degrees, as reäction subsides, into manifest impotence, with increasing mental inaptitude and confusion. The emotions are blunted; the passions can scarcely be roused. Still later no intellectual process lasting more than a moment is possible; a complete state of indifference supervenes as an accompaniment to the exhaustion of the physical powers. This condition may be gradually abated, or it may merge into dissolution; it may be suspended shortly before death. Such a revival of the forces is, however, only comparative; and when it occurs, is transitory, interrupted, and exceedingly feeble.

During the progress of the adynamia, perversion of sensibility, stupor, vigilance, delirium, subsultus, convulsions, coma, and other partial phenomena due to irritation or depression of the nerve-centres may appear; but they are all secondary to the general condition, and dependent upon it.

From what precedes, we conclude that throughout the febrile state, but in varying modes and degrees, according to the nature and stage of the pyrexia—with a constancy which marks its strict subjection to some prime cause of the morbid condition—a diminution exists of the primary nervous and physical

powers of the body; a prostration by no means founded on lack of stimulus merely, but inherent, and essentially dependent on diminished power of the cardinal nerve-centres. We determine further, and most readily, where the reäctive phenomena are absent, or have run their course, that this impotence pertains not only to centres and fibres which are behind to create their own tonicity, but also to those ganglionic masses contained in the cerebro-spinal system, or dispersed, which act as reflexive centres of various kinds, whose tonicity depends, in all probability, not only upon intrinsically generated tension, but upon polarities developed at a distance and propagated to them. Of this kind are the centres of muscular motion; of vaso-motor and excito-secretory action, as well as of reflective inhibition.

The centres of vaso-motor action resident in the medulla almost exclusively seem to be affected very early in fever, giving rise to the *fourth characteristic* of the pyrexial state—viz., *capillary relaxation.*

(*d.*) No one who is conversant with the facies of acute fever, and has practiced or witnessed Pourfour du Petit's section of the sympathetic, in the neck of the cat or rabbit, can fail to be impressed by the similarity of the morbid appearances to those experimentally induced. On touching the parts in man, their increased heat is forcibly suggestive of Bernard's important discovery with regard to this classical section; that an augmentation of temperature in the parts supplied by the nerve, deep-seated as well as superficial, promptly ensues in healthy animals; so that the heat very soon preponderates greatly over that of the opposite side, and even of the rectum, according to Brown-Séquard. The dilatation of the vessels and enhanced temperature are conspicuous phenomena, both of the fever and of the artificial vascular relaxation; it is fair to attribute them to a similar cause, which must be an abolition, partial or complete, of vaso-motor influence. Enlightened by rapid advances in the physiology of the vaso-motor nervous system, no one at the present day presumes to doubt the dependence of capillary engorgement upon this part of the nervous apparatus; whether

the vascular dilatation be active, as by stimulation of inhibitory vaso-motor nerves, or be of the hyposthenic kind, due simply to impairment of the tension of the reflexive vaso-motor circle.

On extending our observations, we recognize that a similar state of things exists in other pyrexiæ; in acute rheumatism, in pneumonia, in the exanthemata, in fevers supervening acutely upon inflammation, or on mechanical or surgical injury; that it is, in fact, more or less evident whenever fever exists.

That the dilatation of the vessels is by no means superficial, but obtains throughout the organism, is proved by a variety of considerations. On inspection, the tongue is seen to be enlarged, sometimes reddened, and coated with a whitish or brownish fur, consisting of epithelial cells, more abundantly exuviated than usual. The lingual papillæ are generally prominent, and the buccal and pharyngeal mucous membrane is injected, and secretes a viscid mucus. The Schneiderian membrane is tumefied, so that the passage of air in the act of respiration through the nasal passages is impeded, and the patient breathes through the mouth. Irritation of any part of the surface produces a more marked and lasting redness than in health. Chronic congestions, as of acne or eczema, become more intensely colored, and erectile tumors or patches, turgescent. Old rheumatic and neuralgic pains are revived. If there is any tendency to hæmorrhage from any surface, it is apt to make its appearance.

Direct observation or subjective experience will reveal this, and much more; induction will carry us still further. We infer that the capillaries of the gastric walls are turgid like those of the face and chest, etc., from the existence of nausea and inappetency, conditions which indicate a repletion of the small vessels of the stomach. The act of vomiting, frequently spontaneous or provoked by the slightest causes, betrays an undue excitability of the mucous membrane. The dilatation of the gastric capillaries, and the tumefaction, redness, and enhanced epithelial exuviation of the gastric walls, in fever, have

been directly determined in many cases; for man, notably in Beaumont's celebrated case, and in the case of dogs with gastric fistulæ, by scores of observers. The facility with which enemata are rejected, especially in the latter stages of grave fevers; the appearance of uterine tenesmus, passing often into contractile pains which lead to the premature expulsion of the uterine contents; the intolerance of light, of sound and of odors, respectively denote an increase of irritability due to an abnormal afflux of blood to the parts concerned.

As the significance of these facts is not to be mistaken, we cannot doubt the existence of a general vascular turgescence in the mass of the tissues as well as on the surface. While in inflammation the capillary turgor is limited to a part, in fever it penetrates the whole organism. In inflammation, certain "knots" only of the vaso-motor and correlated nerves are affected; in the pyrexial state, the entire medullary vaso-motor tract, and certain independent ganglia likewise, with their respective reflex circles, are functionally depressed.

This general vascular turgescence is, nevertheless, variously modified in fever. When forced by pressure of the finger out of the small vessels, the blood returns into its channels with very different rates of speed in different pyrexiæ. While in pneumonia, acute rheumatism, or the early stages of the exanthems, it refills the vessels quickly, in typhus, bilious remittent, or yellow fever, it returns into them sluggishly. The capillary torrent is far more rapid in one case than in the other. A similar difference in the rapidity of the capillary circulation is observable, moreover, during different periods of the progress of fever in the same individual; the blood at first springs quickly back into the vessels, but after the reäction has lasted a certain time, when it begins to decline, even if health should be reëstablished, or when the forces begin to fail, the part pressed upon by the finger remains white for some seconds, and the emptied vessels are very slowly filled again. In what are termed the "*adynamic*" fevers, the capillary dilatation is more pronounced, and the obliteration of the "pressure-mark" much

less prompt, almost from the first, than in the catarrhal or acute phlegmasial pyrexiæ.

While this vascular turgor, therefore, pertains essentially to the pyrectic state, and is manifest in all fever whatever, it is more pronounced in some pyrexial forms than in others, and is qualified by appearances denoting that the blood is far more profoundly affected in some than in the rest, and that the disposition of the blood towards the tissues, and of these conversely towards the blood, is very different in the various forms of fever, and undergoes notable modification in the progress of every pyrexia.

Shortly after the accession of fever, the capillary dilatation is uniformly distributed; but at later periods is subject to wide variations of local intensity. It may indeed almost disappear in certain parts, while it becomes more intensely developed elsewhere, in stasis or inflammation. In reality, as soon as the capillary relaxation is established, the mass of the blood gravitates according to its primary crasis, and by the laws of the "Draperian" circulation, either towards the periphery, away from the lungs, or in the reverse direction, or towards any special organ. This localization may be early, in consequence of previous local congestion, or it may not appear until an indefinite period has elapsed, manifesting itself under the influence of some special irritation, or it may never occur at all. In this case, however, at first sight suggestive of benignity, death often occurs by adynamia accompanying a progressive deterioration of the blood, etc., as in typhus and yellow fever.

The crasis of blood, prevailing at the onset of fever, materially influences the *degree* of general and local "congestion"; and its quality directly controls those functional derangements which mark a special form of pyrexia, and acquaint the practitioner with its nature and tendency. On the invasion of fever, the blood may be venosed or cyanotic, normally oxygenated, or hyperoxygenated; its corpuscles may have been affected by intrinsic or external influences in various ways; they may have been deficient or superabundant. The blood in fact, at the mo-

ment of invasion, may exist in any of its different crases. The original crasis is nearly always modified during the progress of fever, so that the conditions obtaining at the close, with regard to the constitution of the circulatory fluid, are essentially changed, if the pyrectic state continue sometime, and this whether death or convalescence be the issue. Indeed, so profound are the modifications of the system induced by fever, that perhaps all the normal balances of the system are disturbed; upon its subsidence a new partition of the forces is effected, so that altogether different constitutional proclivities become manfest.

During the progress of the malady, in virtue of the general dissemination of the blood, that fluid is brought most intimately into relation with the tissues, and the reciprocal changes effected usually result in the establishment of a normal balance, or of one which is susceptible of becoming so. This capillary turgescence therefore is essential to the febrile condition, and one of its earliest and latest phenomena. It ushers in the chill when this is manifested, and, as we shall find, underlies that state. It outlasts all other febrile characteristics, and persists after the heat declines until the heart's action is restored to its normal rate, until the tongue cleans, and the digestive operations are reëstablished in their fullest integrity. It often persists, in a latent way, after health seems quite restored for many months after "*adynamic*" fevers. Although the general congestion is now freely referred to hyposthenia of the vasomotor nerves and centres; whether it is entirely intrinsic in them, or is induced by failure of excitatory influences generated in distant but correlated parts by blood-tissual reäctions, has not yet been clearly decided. It is probable, as we shall see, that the decadence of force, evident in the relaxation of the arterioles and capillaries, is due to both these conditions; that the excitation of the peripheral extremities of the afferent nerves is diminished when nutrition is impaired or perverted, so that a feebler centripetal exciting influence is generated; and at the same time, for similar reasons, the proper tonicity or

"discharging power" of the centre is impaired; the primary diminution of force is thus *doubled*, and only a feeble impulse is reflected to the periphery, or, perhaps, in the gravest forms of congestion, none at all. The phenomena of reäction, however, modify the distribution of these forces.

Another characteristic of fever, dependent upon nervous hyposthenia, is the arrest of the secretions. The functions of the skin and kidneys, of the salivary glands, of the proper digestive glands, and of the numerous glandulæ of the gastro-intestinal tract, are more or less completely suspended in every form of pyrexia; and then reëstablishment, which nearly always occurs simultaneously, marks the subsidence of the febrile condition. This arrest is plainly due to a common cause, and must be credited to diminished reflexive tonicity in the excito-secretory centres. As was just now remarked, respecting a similar hyposthenia of the vaso-motor centres, whether the impotence be due to direct subsidence of power in the nervous matter; or, secondarily, to an impairment of those nutritive or blood-tissual reäctions in parts at a distance, by whose accomplishment the polarities of the centres are maintained, is not yet clearly established. In regard to this very important consideration—viz., the intrinsic or derivate potentiality of the reflexive centres generally, whether these centres wholly or partly generate the forces emanating from them, or simply distribute to the vessels and glands polarities which they have stored up in their cells, but which have been generated around or in feeble or afferent nerves, neurologists are by no means agreed; and we can only found an opinion provisorily, endeavoring to make the best use of what is really known, and to appreciate certain facts of a comprehensive nature. Some of these I will present further on, remarking here, that as the importance of this question to a correct physiology of the nervous system is plain enough, much attention is now devoted to it, and we may flatter ourselves that the light will shortly break in upon us.

The febrile state is thus based essentially upon hyposthenia of the nervous centres. This depression of nerve-tension is,

however, more or less masked, naturally, by the other characteristics of fever, by the acceleration of the heart and respiration, and the augmentation of temperature. In the *gravest forms of fever* the *hyposthenia remains unmarked;* there is no "reäction." On the other hand, a high grade of development of those features of fever which manifest themselves in the reäction, very often gives rise to an altogether false appearance of strength, while the constitutional weakness not only persists, but is aggravated in direct ratio to the development of those symptoms. The true degree of exhaustion is revealed in what is known as *collapse*, or when *convalescence* sets in. The condition in which this development of some or all of the characteristics of fever occurs, is known as the "Period of Reaction," which I shall briefly comment upon.

Shortly after the invasion of fever, after a certain period in which prostration, heat, and cardiac acceleration are the most conspicuous phenomena, and after the occurrence of a "chill," which is, however, very often absent, certain conditions become more and more prominent, continue well marked for a variable time, and finally disappear. As they accompany bodily or mental activity in health, they are generally spoken of as denoting a higher, or at least a more manifest action than usual. The period of excitement is sometimes very brief, especially in the aged; and in feeble and cachectic constitutions; while it is strongly marked and lasts, sometimes, for many days in robust subjects; it is moreover dependent upon the subjacent blood-crasis, upon temperament, and the intrinsic nature of the fever, and especially upon the rate of nutrition during the progress of the malady.

While the hyposthenia, already insisted on, involves all the nerve centres of the body, in virtue of the constitution of the nervous mechanism, it does so *unequally*, first manifesting itself and bearing throughout most heavily upon the foci of *inhibitory* influences. Where no reäction occurs, the polarity of the reflexive centres progressively declines, with a final induction of universal and absolute asthenia. During reäction, on the other

hand, their tension is maintained at a grade determined by its activity; but the dissipation or discharge of this tension takes place more or less readily in consequence of the partial or complete subsidence of power in the inhibitory nerves and centres, which naturally restrains this discharge. While, therefore, during reäction tissue destruction and the consequent generation of polarity, so to speak, is enhanced, the nervous tension of the centres of sensation, of intellection, and of motion (as in the heart and respiratory muscles, etc.,) is so easily discharged that restlessness, anxiety, and even pain, result from the action of stimuli ordinarily quite incompetent to produce any disturbance whatever. That the absolute degree of nervous tension attained in fever is, at any time, equal to that of health, where the inhibitory nerves are in full action, however high the reäction may urge the destructive processes, is barely possible; it must, however, vary much, according to the development of the reäctional phenomena. The individual is plainly unable, in fever, to command the forces of his body ordinarily under complete control; he avoids all physical and psychical excitement, and shuns, with ease, all processes of thought, and all impressions which can give rise to emotional or sensory action.

This high nervous tension constitutes what is termed "excitability," and is brought about in great part by the dilatation of the small vessels, and the increase of cardaic motion. The blood-vessels contain, during reäction, a greater quantity of blood than usual, whose temperature is raised—not only by concurrent changes of a chemical nature, but in consequence of freer communication with the heart, and augmented rapidity of the circulation. Tissual-nutrition, and its complement, tissual-destruction, must therefore be enhanced, as in the early stages of fever, the blood can never vary greatly from the condition in which it existed a short time previously, when apparent health prevailed; and although the rate of nutrition must decline in fever as the blood pabulum is gradually exhausted, for the system receives very little from without; assimilation and destruction of tissue can never wholly cease during reäction,

however feeble this may be, for it is a well-known pathological fact, that the blood is never disorganized nor exhausted of its prime elements when *re-action is manifest or possible.* Throughout the period of reäction, therefore, the blood must be competent to administer to the nutrition of the tissues, more or less, perfectly; and in the concurrent tissue-destruction we recognize the source of these polarities, which, as I have said, are either propagated to the nerve centres, or partly generated within them, but tend to diffuse themselves in motion or sensation, abnormally, being no longer limited or restrained by adequate inhibitory influences.

As the circulation is generalized, therefore, in reäction, the eye becomes intolerant of light; the ear morbidly acute; the skin hyperæsthesic; sharp pains dart through the temples and extremities at irregular intervals, while a general uneasiness almost amounting to pain, and headache of variable intensity persists. A sense of restlessness is experienced; the patient closes his eyes, but dreams along without actually sleeping; for an involuntary succession of ideas courses without hindrance through the mind; he seeks darkness, quiet, and solitude, and his temper, according to his natural disposition, becomes anxious, irritable, or sullen. Vomiting is easily induced, provided the medulla be not gravely affected, and the rectum, bladder, and uterus give characteristic signs of increased irritability.

It is a matter of familiar observation, that these phenomena of excitement, like the pain of a newly-blistered part, are most violent at first, but soon subside into a milder grade, in which they continue manifest, perhaps with periodical exacerbations during a period which varies according to the malady. They steadily decline, however, though by no means with strict regularity, toward apathy and adynamia, gradually exhausting the resources of the system. Death inevitably results by exhaustion, if these reäctional phenomena continue unchecked by art, or by internal changes of blood crases, which most frequently occur during the progress.

Reäction is of the first importance in fever, as in its accomplishment and by its proper movements, health, or at least that partial reädjustment of the systemic actions toward "convalescence," is established in the immense majority of cases. While I am loth to speak of it as a "struggle between the destructive and reparative powers," as such an expression involves the doctrine of a "*vis medicatrix*," which I am far from entertaining under any form, it is, nevertheless, during its manifestation that changes, principally in the blood, are brought about by which the final issue is decided.

The period of reäction is of prime consequence in a therapeutical point of view, and has been clearly recognized since the repudiation of the hypothesis of "critical epochs" or the stage in which remedial agents should be most actively urged, and when their effect upon the subsequent duration of the disease, and on the sequence of accidents customarily observed during its interior progress, is most conspicuous. This is peculiarly the case in the mode of practice which I follow and shall advocate, one of whose main features is a reduction to the normal or "health" standard of the exuberant and wasteful movements of reäction, with a view to the conservation of strength, for use when the system begins to languish, as well as to prevent or diminish the exceedingly dangerous influence of an inordinate development, as regards duration or intensity, of these "reäctive phenomena" upon the blood and force-generating material of the system at large.

The excitement of the "reäctive period," however prolonged, lends no real strength; but, on the contrary, rapidly dissipates the resources of the system. Notwithstanding the prominence, and even occasional violence of the symptoms, the fundamental hyposthenia persists, cropping out more and more conspicuously at each remission, if there is one, of the pyrectic movement. At no time is the real power capable of being *put forth* by the most determined exercise of the will, comparable to that of ordinary health; at no time *does anything approaching to a "sthenic" state exist*. Mistaken views on this subject, in the

past, led to the gravest errors of practice; inordinate depletion, by the lancet, and by purgative and diaphoretic remedies being universally employed in a wholly erroneous apprehension of the state of things; and even while I write, there are innumerable practitioners who conclude from the hasty and labored respiration, the hot and flushed cheek, and the bounding pulse, that systemic power is above par, and should be promptly reduced, if not by the lancet, at least by other modes of depletion, including local abstraction of blood.

Fever is a plastic affection, under numerous and hardly perceptible influences, capable of induction into the gravest conditions. The primary state in which it takes its origin, and which underlies all the characteristics we have considered, but for the intervention of the reäctive mechanism, leads inevitably to a swift dissolution of all the vital and physical bonds of the organism. In the phenomena of reäction, the resources of the body are taxed to the utmost, at times, and are blindly directed toward a reëstablishment of certain nervous balances. In *violent re-action* nearly all the available power is called upon; indulging in a metaphor, the capitalist, finding himself on the very brink of ruin, borrows heavily, without caring, hardly knowing, what exorbitant interest he pays, and ventures all upon a final enterprise.

It is the part, therefore, of rational medication to *apply* these systemic resources, liable to great *misuse* at the hand of the "*vis medicatrix;*" to prevent their undue dissipation, and while wisely expending what is absolutely required for success, to hold the balance untouched for unforeseen contingencies, and for the maintenance of the system during the period of exhaustion, more or less profound, in which "convalescence" begins.

In view of the *apparent* exaltation of the systemic powers manifest in the reäctive phenomena, we must conclude that the process of *tissual assimilation* continues, with varied intensity, throughout the period of reäction, however much at fault the functions of digestion and of *primary assimilation* may be. As the assimilation, by the tissues, of material from the blood

necessarily liberates a complemental amount of tension-generating substance, those forms and stages of fever in which tissual assimilation is most marked, must be accompanied by the most evident and prolonged reäctive excitement. In high grades of reäction, and in its early stages, especially, it is possible that in consequence of an augmented rate of tissue-nutrition, urged by abundant blood pabulum and high heat, the concurrent destructive metamorphoses, most probably, far more highly exalted by heat than nutrition, may induce a grade of tension in the tissues and nerve-centres greater than that of health. As I have already remarked on this point, I scarcely think that this often occurs; the "facility of discharge" which is so marked in febrile reäction, in general, being due not to an absolute increase in tension in the nerve-centres, but to a primary and fundamental hyposthenia of the inhibitory influences, whose normal office it is to antagonize and control the central or peripheral tension. Unquestionably, however, in the later periods of prolonged reäction, as the blood pabulum fails, the grade of polarity sinks with the decline of *tissual-nutrition*. As regards the duration of reäction; if the nutrition of the tissues be tolerably active, and especially if primary assimilation continues able to supply the blood with new stores of material from without, though a small quantity as compared with the amount poured into the circulative fluid during health, force material will be deviated to the destructive processes abundantly enough to support a high grade of pyrexial action for a long period; but if, on the other hand, the blood pabulum be primitively defective, in quality or quantity, reäction will be soon over, or will run low. If the *rate of tissual nutrition* be depressed, in consequence of total inefficiency of the processes of primary assimilation or notable impairment of the qualities of the blood in various ways and degrees, the dynamic manifestation of reäction will scarcely appear, and will last only during a limited period. The grade and duration of reäction, therefore, is strictly controlled by variations in the rate of tissual assimilation, though determined immediately by the rate of destructive

metamorphoses. When tissual nutrition fails altogether, speedy death by adynamia necessarily occurs; for *no great lapse of time* is necessary to completely exhaust the stores of force-creating material, which are always near the point of exhaustion during fever, being lavishly expended in reäction.

That fever is founded in prostration of the nervous powers, was boldly declared by Cullen. Under the influence, apparently, of some views of Hoffman respecting the inaction of the peripheral vessels, he taught that the phenomena of fever were due to the prostration of the nervous system; and "that the languor and lassitude which precede the chill, are produced by some sedative influences which are the remote causes of fevers. That the energy of the brain and whole system, particularly of the extreme vessels in every part, is diminished, and that in this state of things the cold stage takes its origin." This view is altogether different from that entertained and loudly proclaimed by Brown, the disciple but subsequent enemy of Cullen. Brown classified fevers, and indeed all diseases, as "Sthenic" or "Asthenic," in whose treatment, accordingly, stimulants or antiphlogistic remedies were respectively to be employed. Though a pure systematist, Brown's classification seemed so natural, fortified as it was by some valuable doctrines respecting "accumulated and exhausted excitability," that his notions were very extensively adopted. Nothing further respecting the inherent nature of disease seemed desirable or possible. Differences obtaining in various forms of fever, dependent on a multitude of primitive or secondary conditions, were overlooked; fevers were invariably characterized by augmented or diminished action, and most disastrous results in practice inevitably followed. Brown's ideas spread through the physiology as well as the pathology of his time, and continue evident in the received views respecting "irritability and stimulus," by which the organism is supposed to exist in a condition merely of "receptivity"; the manifestations of life being due to the action of various agents upon an essence qualified by something like the "inertia" of matter. Even at present a constant effort, due to

the influence of Brown's notions, is apparent to rank diseases, and fevers especially, as "sthenic" or the reverse. Such an attempt I must regard and stigmatize as altogether foreign to a scientific view of the pyrectic state; any such Brunonian doctrine must be completely dismissed upon the very threshold of a rational analysis of the elements of fever. All fever is hyposthenic; without reäction every pyrectic invasion must terminate in fatal adynamia. I shall endeavor to show that the condition of the blood and tissues which constitutes the essential basis on which the reäction is founded, and the cause of the primary hyposthenia, I may almost say, *naturally* induces the phenomena of reäction, although in many cases it fails, unfortunately, to do so. As this condition is deeply hidden in the economy, we can only recognize the existence of fever by some or all of the characteristics I have sketched. As these, however, vary materially in the proportions according to which they are commingled, and as they are likewise most notably controlled in grade and duration by a variety of systemic, and even extra systemic influences, fever, as expressed in reäction, naturally presents itself under a great variety of aspects. Nor can the strength of the body be measured in fever by the grade of reaction at any given time, for this in no way informs us with regard to the resources of the system, but indicates only the rapidity with which they are expended. Every movement of fever, all the excitement of the reäction, is simple *disbursement;* if I could use a teleological phrase, I would say *expenditure*, for purposes of prime importance. In considering the nature of the reäcture phenomena, with a view to practice therefore, we are not called upon to inquire whether the reäctional excitement is greater or less in one form of fever than in another, nor whether this excitement is greater than that of health or inferior to it, but whether the resources of the system, estimated in each case from a knowledge of the special form of pyrexia, as well as from the individual symptoms, are able to maintain the grade of reäction actually observed, without danger to the system, sufficiently long for the induction of recuperative

changes in the blood, and the normal reëstablishment of the functions. That a high grade of reäction should be induced, is undeniable; indeed, as I have already observed, all grades of reäction, when this is once established, should be controlled; and, if for no other object than to hasten convalescence and to prevent altogether unnecessary waste of bodily power, should be reduced artificially to the neighborhood of the standard of health. To reduce the excitement of reäction, however, by the methods which I shall describe, is altogether a different matter from *diminishing the available forces* of the economy by blood-letting, or systemic purgation and diaphoresis. If the views I have advocated are correct; if fever is founded in hyposthenia, any real reduction of the force-creating material, the blood plasma, must be in the highest degree injurious. Experience alone has taught this; venæsection is now abandoned in all idiopathic fevers, and very sparingly used even in the phlegmasial pyrexiæ. Even the absolute diet, in continued fevers, has given place to the use of concentrated essences and extracts of meat, prescribed with due regard to the state of the gastro-intestinal mucous membrane, and the digestive powers. The dangerous error, inherent in Brown's doctrines, and in all which contemplate fever as "sthenic or asthenic," consists in comparing the degrees of reäcture excitement with the standard of health, and in endeavoring to reduce the morbid state to that standard, by stimulants or depletives, under the impression that the condition observed is only a *higher or lower grade of health.* The actions of the body do not vary as regards quantity only, but qualitatively likewise. Independently of this, the superficiality of the Brunonian idea, and the irrelevancy of the practice based upon it, is evident in the fact that cognizance is thus taken of the "reäction" merely, which, as I have already hinted, does not constitute the malady, but is consequent upon an antecedent change in the fluids, and solids perhaps, which naturally induces the reäcture phenomena in the vast majority of cases. Nature is by no means as simple as she often seems to be, and the revelations of science daily prove

how utterly regardless she is of the convenience of the human intellect, in the construction of organic beings, and in the disposition of the mechanism of life.

The characteristics of fever, which I have succinctly reviewed, coëxist during the active period of all forms of pyrexia, and are naturally correlated. They are likewise naturally sequential to each other in the following order: *Heat; nervous hypostheniа; capillary relaxation; acceleration of the heart;* taken together, these characteristics constitute a natural group plainly of a systematic kind, indissoluble and developed in the midst of exceedingly different conditions of the organism, by which they are individually and collectively modified; they constitute a mechanism by means of which, when its several members coöperate harmoniously together, *a certain state of the blood or tissues qualicative of health, or leading to it, is almost surely established.*

But if these members are linked to each other in a mechanical group, where each element is indispensable to the rest, and where the separate elements appear in a regular etiological sequence, they must collectively acknowledge some antecedent state as an indispensable agent in their production, by means of which, as a group, they are brought into relation with extra-systemic influences. If the febrile group is a unit; manifestly a mechanism wherever we find it, whose identity cannot be disputed, it must be due to a *simple antecedent* condition, which *always* occurs where pyrexia is lighted up. As regards the fact of the etiological sequence of the characteristics of fever, this must remain for future determination, but will, I think, be demonstrated satisfactorily enough. Taking it just now as proven, we arrive at the conclusion that fever is due to the establishment in the organism of some process or mode of action which is *fundamentally and invariably the same, whatever be the intensity, the nature, origin or tendency of the special pyrexia.* This condition, plainly the proximate cause of the febrile mechanism, will be considered in the next section.

ART. II.—THE INHUMANITY OF CAPITAL PUNISHMENT BY HANGING. By PAUL F. EVE, M. D., Nashville, Tenn.

It is not proposed to write a sensational article, but to call attention to the unwarranted cruelty inflicted upon those condemned to die by the halter; and rebuke, if possible, the disgraceful spectacle of thousands of both sexes ever ready to witness a poor human wretch convulsed in the agonies of expiring nature. Justice, said to be heaven-born, should ever be tempered with mercy; hence it is that civilized nations have long sought for the easiest method of taking life legally. In Spain and her possessions, this is done with the garrote; in France and some of the German States, by the guillotine; in Great Britain and her vast dependencies, and in the United States, hanging is the custom. How this is now conducted can fully be understood by quoting the accounts of two recent executions. "Louisville, July 5th, 1872. Thomas Guthrie, colored, was hung at Danville, at noon to-day, for murder, in the presence of nearly 4,000 people. * * * Life was extinct in fifteen minutes." On the occasion in Georgia, two were hanged at the same time. "Three strokes with a hatchet were heard" (how harrowing must this have been to the unhappy criminals), "then a heavy thug, a few convulsive struggles, etc. The physicians declared that Lloyd died in sixteen minutes. Hosenbake's pulse did not cease to beat for twenty-seven and a quarter minutes." That these men were guilty, and justly condemned to a felon's fate, may not be questioned; but by what law, human or divine, can their strangulation for fifteen minutes to half an hour be justified? Why were they choked to death like dogs and made to suffer all the horrors of suffocation? And of the thousands of shameless spectators of these inhuman exhibitions, it seems never to have occurred to one of them but that all things had been done in decency and order; yet, as will be seen, life may promptly, painlessly, and with certainty, be taken in a few seconds. If these executions must be made public, let us hope that some speedier way may be adopted; that the unfortunate victim be not left subjected for a quarter to

half an hour to the ignominy, the taunts and jeers of a vindictive populace while in the throes of death.

"Teach me to feel another's woe,
To hide the faults I see;
The mercy I to others show,
That mercy show to me."

A few years ago a Professor Haughton, in Ireland, proposed to decide the length of the drop required to produce immediate death by hanging, and announced that this was the quotient of the malefactor's weight into a ton—thus, assuming that to be 180 pounds divided by 2,240 (an English ton) leaves about 12½ feet for the length of the fall. A convict, Andrew Carr, was hung in Dublin, July, 1870, upon this calculation, when, to the surprise of all present, his head was cut off. Haughton attributed this to the lack of resiliency in the rope, which he said ought to have yielded a foot and a half to the above weight, but being too stiff, had like a wire produced decapitation. He, however, killed his man, and that quickly, too, which is far more than can be said of the ordinary drop of only a few feet, rarely ever dislocating or breaking the neck. Indeed, the position is assumed that, as now performed, this operation utterly fails to carry out the original design of causing immediate death, and therein rests the inhumanity of relying upon it for capital punishment.

We have referred to three consecutive cases in which the pulse continued to beat for fifteen, sixteen—yea, over twenty-seven minutes after they were swung off; and it is probable that life was not then extinct, but only suspended, so that these subjects could have been revived, for now we know several have been under precisely similar circumstances. Startling as are these assertions, the inference is irresistible from the facts now before the world, that the halter does not destroy life directly, this being due almost invariably to the much slower process of asphyxia. Thus hanging may be next to crucifixion, pronounced the most dreadful punishment ever invented by the ingenuity of man, unless the dungeon on bread and water be the acme of

all human suffering. It has been reported a Major Webber, of Mississippi, captured on Morgan's raid into Ohio, endured even this at Columbus for sixty-three days, having only been released from it a lunatic the day before.

We very naturally associate pain with dying, and talk of the agonies of death. From infancy we are taught to be merciful to all living, and hasten instinctively to end the distresses even of the wounded game in gunning. The domestic fowl is rapidly decapitated for the spit, and the butcher's meat prepared after being killed by the pith. In the slaughter-houses opposite New York city, in Louisiana, Texas, etc., the slaughterer may be seen on a platform, over the bullock, armed with a short spear, which he thrusts into the neck just behind the head, and the animal drops dead. The sportsman but taps with a finger behind the ear of the captured rabbit, and it expires. The physiologist pierces with an awl before his class the spinal marrow high up in the cervical region of the dog, and a slight wag of the tail is the last evidence that he had ever lived. It is only man's inhumanity to man which reserves alone to his fellows the tortures of the gallows.

While life depends upon the functions of the heart, lungs and cerebro-spinal axis, and the interruption to either one of these will in the end involve the other two, still in a peculiar sense it is dependent on respiration. God, we are told, breathed into him the breath of life and man became a living soul. The aim of capital punishment then should be to separate body and spirit as painlessly as possible by doing this suddenly, instantaneously. Blowing from the cannon's mouth, as recently done in the East Indies by the British Government; or by platoons, as in the case of Marshal Ney; decapitation, drowning; strangling, as in China, have all been resorted to; but the three most popular methods in civilized nations are the garrote, guillotine, and hanging.

To strangle with the cord (bowstring), as it was termed in oriental countries, by a stick rapidly twisted about the neck, was employed by the Arabs, and Moors, and is still used in

Turkey. The Spaniards have substituted for it an iron collar with a screw for piercing the spinal marrow. The garrote is good in principle, and might be perfected by a spring, so as with certainty and quickly to divide the spinal marrow above the nerves of respiration.

The guillotine decapitates, and was introduced in place of the axe and sword. It was neither the invention of Dr. Guillotin, nor did he fall a victim to its use, as has been believed. A similar machine was employed in Germany during the sixteenth and seventeenth centuries, and is still the practice in Bavaria and Wirtemberg, as well as in France. Dr. Joseph J. Guillotin was born in 1738, and died in Paris in 1814. He with the celebrated Dr. Louis, then the perpetual secretary to the Academy of Surgery of that city, recommended this machine as a humane measure during the dreadful revolution of their country at the close of the last century. The guillotine consists of two grooved upright posts, in which, from its weight, rapidly descends a broad, sharp blade, placed obliquely, upon the malefactor's neck, who is previously secured (face downwards) upon a horizontal board. The head is cut off instantly, and with the body is received into a wicker-basket, saw-dust being used to absorb the blood; all are then rapidly conveyed away. But little can be seen of the operation, nothing of the beheaded, though an immense crowd had assembled, as was witnessed in Paris in 1830. The objection to this method is the shedding of human blood.

As to the immediate loss of sensibility in decapitation, Pinel, Sommering, Dubois, Sedillott, some of the best professional names of Europe, and the "London Quarterly Review," specially, have all written on this question; but from the experiments instituted by the Society of Legal Medicine in Paris, conducted by Drs. Everard and Beaumetz, and then these results subsequently confirmed by the Medical Association at Mayence in 1803, there can no longer remain a doubt that sensibility does not persist an instant after decapitation. In five minutes after the head was cut off the most glaring light

never once contracted the pupil, the most concentrated ammonia never excited the pituitary membrane of the nose, nor the loudest calling, even after wiping out the ear carefully, give any evidence of audition; neither were there any muscular movements produced but the automatic, or such as galvano-electricity elicited, even when the cranium was emptied of its contents. The guillotine may then be considered a most humane method of capital punishment.

Hanging, the last to be considered, seems ever to have been a difficult and uncertain operation. Joshua hung the King of Ai on a tree, and Ahasuerus did the same thing for Haman, but on a gallows fifty cubits high. These Scriptural instances were, moreover, far more successful than modern attempts, some of which we have seen were worse than miserable failures. How often has the rope broken, and the half-strangled, miserable wretch to be swung again?

Dr. J. C. Reeve, of Dayton, Ohio, says: "A poor criminal was launched from the drop, as he supposed, into eternity, yet the rope broke. In a moment he was on the ground, gasping for breath, his neck lacerated, the blood streaming from his mouth and nose; and as soon as the poor fellow could recover breath, he prayed, with an imploring look, *'Please, gentlemen, don't let that happen any more!!'* Could anything be more barbarous, more outrageous to every sentiment of humanity than such a scene?'"

The truth probably is, that it has never been an easy job to break or dislocate the neck. Eli did it by falling backwards, but he was an old man of ninety-eight years, and heavy. So powerful are the muscles connecting the head and body; so accurate and secure the articulations of the cervical vertebræ; so strong the ligaments binding them together; some even named the *check*, that a separation or fracture is almost impossible from hanging. In the surgical and topographical anatomy of B. J. Béraud, Surgeon and Professor, etc., Paris, 1867, it is asserted that an accidental dislocation of the head on the first vertebræ, if not impossible, is unknown. The history of sur-

gery does not record a well-authenticated case. The instances referred to by J. L. Petit, Lassus, Charles Bell, and Cline, of of atlo-axiod luxation, were from disease. So resisting the power of extension, that even when all the muscles are dissected away, the strongest efforts are required to produce this separation. J. L. Petit and Louis supposed that instantaneous death in hanging was the result of pressure of the odontoid process of the axis upon the spinal cord; but Columbo, Mackinzie, Monro, Orfila, and Caspar, declare that this supposition rests on no good foundation; not that this has never been observed in persons hung, but that it does not often occur. Of thirteen instances referred to in my work on "Remarkable Cases in Surgery," published in 1857, examined by the late Dr. Porter, then Professor of Anatomy in the University of Nashville, and by others, and in some twelve since received into our Medical College, in not one of the twenty-five hanged was this peculiar dislocation found to exist. Thus proving conclusively this to be the exception, and not the rule.

The acrobat fearlessly swings his body to and fro from a loop resting on the nape of his neck; and so uncertain did mere suspension prove directly destructive to life, that executioners were at one time permitted to twist the body in swinging it off, or a kinsman allowed to spring with his whole weight upon his suspended relative. In case, too, of ossified larynx, after long suspension, the criminal was revived, and is reported to have lived several years; and in another, the attempt made at resuscitation by opening the trachea after hanging, by artificial respiration and bleeding, the patient opened his eyes and sighed, though he did not recover. The idea, therefore, that the halter produces death by dislocating the neck, is not sustained by facts. This would undoubtedly do it, but as hanging as now executed utterly fails to do that, death must be accounted for in some other way; and this is by the pressure of the rope upon the blood-vessels and windpipe—in other words, the victim is throttled. The moment the halter tightens around the neck, the jugulars, four in number, become compressed, preventing the

return of the black blood to the heart and lungs from the brain, where it accumulates, as in congestive apoplexy; the carotids next cease to pulsate; and finally the air-passage is closed by the increased pressure produced by the weight and struggles of the dying man. How long consciousness persists during these changes, and when it ceases to exist altogether, must of course depend upon the varying circumstances connected with each particular case. Nor shall we enter upon the question, how long may life be suspended by hanging and the patient be revived. Sufficient for our purposes are the uncontrovertible facts that life, by this process of punishment, must necessarily be extinguished very gradually, like the flickering taper, as seen in the convulsive struggles on the gallows; and even so imperfect is the execution, that not only for minutes, but for an hour after the execution, and the body pronounced a corpse, it can be—yea, has been reänimated, and the dead brought to life. So that a change is absolutely essential in the English and American method of capital punishment, if not because of its inhumanity, for the reason that death caused by it, though legal, is not actual; and the suspended body on the gallows be watched hereafter until decomposition takes place, less it be revived.

Now the proof positive, beyond the peradventure of a doubt, respecting the utter inadequacy of hanging producing immediate death, is seen in the case published in the Journal of the Gynæological Society of Boston for June, 1871. As to the character of this medical periodical, it may be sufficient to state that Professor Horatio R. Storer, M. D., is one of its editors, and that he not only accepted the case, but added editorial notes to it. One, named J. K. Skaggs, aged 35 years, weighing 160 pounds, and in good health, was hung in Bloomfield, Stoddard county, Missouri, August 26th, 1871. The execution was public; witnessed by more than 2,500 persons. Dr. Robert J. Jackson reported the case, which is attested by J. F. McDonald, M. D. The drop was more than six feet. The man struggled for three minutes, in a few more all signs of life ceased; but he

was left suspended, to be certain he was dead, for fourteen minutes more, when he became blue. "Examination proved that the neck was not broken." The rope left a depression of a quarter of an inch on the neck, and the heart's action had entirely ceased. Artificial respiration having failed, the galvanic battery quickly revived him, so that the sheriff, becoming alarmed, interrupted the doctors twice, and the populace finally forced them to stop their experiments. Skaggs, nevertheless, so far recovered that his pulse assumed a strong and steady action, the carotids could be seen to beat, the respiration was easy and regular, the pupils contracted and dilated, he followed persons with his eyes about the room, was bled twice, drank brandy and water, and actually lived until four o'clock the next morning—making a period of about seventeen hours after being hanged *secundem artem*, and pronounced dead, not only by officers of the law, but 2,500 witnesses, and at least two experts. What now shall be said of hanging as capital punishment after reading these most remarkable facts? The offender was legally killed, yet was made alive again. He paid the penalty of the law; respiration and circulation had ceased; to all appearance the body was dead, yet medical science revivified the cell-life! What a God-like profession, though it may have reänimated only a malefactor in this instance.

We trust that it has now been satisfactorily shown that, in modern hanging, the neck is neither broken, as is generally believed by the unprofessional, nor is the tooth-like process of the axis dislocated, as was pretty generally credited formerly by the scientific; but that death from this source must be a slow, gradual, and consequently a most painful strangulation. There is certainly in it more than the moral punishment, the ignominy of the act. We instinctively shrink from being choked to death, and dread the very idea of being suffocated. No one desires to be throttled to death, yet the attempt has been made, even by the "London Quarterly Review," to produce the impression that, with the tightening of the halter, consciousness ceases, and that, at most, one only experiences a momentary

uneasiness, followed by visions of indescribable beauty. To all such representations, said to be the reports of those unexpectedly rescued from the gallows at the last extremity, may be suggested the *argument ad hominem.* How many respectable people select the halter as the means of self-destruction? We read daily of suicides by morphine, drowning, chloroform, firearms, cut throats, carbonic acid gas, etc., etc.; but how few by hanging.

As to the assertion that the constriction of the rope causes immediate congestion, followed by unconsciousness, we present, as contradictory to it, these brief notices—two of which were furnished by my colleague, the distinguished editor of the "Nashville Journal of Medicine and Surgery." The laws of Kentucky required the sheriff to place the condemned in a wagon, with the halter around the neck, the free end of which was then secured to the cross-beam of the gallows, and the vehicle driven from under it. About the year 1832, a colored girl, twelve years old, chopped off the head of a white child, nine months of age, which she was nursing. When swung off she thrust the fingers of her pinioned arms between the rope and her neck; after struggling for a few moments, they were removed, when she made eleven distinct efforts at respiration, elevating her ribs and shoulders, before a general shudder announced her death.

In Lexington, Ky., 1812, two negro men were executed together. After the expiration of what was believed to have been a full minute, one of them reaching out his hand (the arms being tied behind), touched the other, when, as if fully understanding each other, for about another minute they continued shaking each other by the clasped hands amid the sympathetic shouts of their black friends who surrounded the gallows. Not one present who did not believe that, on this occasion, these men were fully conscious of what they were doing, and interpreted this act to mean—we are fellow-travelers under the same condemnation, and bound to a common eternity; why then should we not love each other?

Even while writing this, comes the news that at Brainard, Minnesota, July 25th, while the citizens were trying to hang two Indians for murdering a young lady, as they swung off together with their arms pinioned, one mounted the shoulders of the other, and had to be shot. Surely the time has come when we should reconsider, in a humanitarian sense, our present mode of inflicting capital punishment.

ART. III.—MEDICAL AND GENERAL SCIENCE AS VINDICATORS OF THE MOSAIC RECORD, AND AS REPUDIATORS OF THE MODERN DOCTRINES OF DEVELOPMENT AND SELECTION. By E. S. GAILLARD, M. D., Professor of the Principles of Practice of Medicine in the Louisville Medical College, etc., Louisville, Ky.

Atheists and skeptics, infidels and the spurious and unworthy children of science, have, throughout the history of man, endeavored to subvert or destroy his most precious record; the description of creation as given by the inspired Moses. Such efforts, as often as they have been made, have invariably ended in disaster, ridicule, and shame; still they are not discontinued, and in recent years they have become more dangerous, because they are represented by men justly distinguished for their wisdom and mental power. Civilization, which is the symbol and synonyme of Christianity, is again threatened by the teachers and advocates of skepticism and infidelity, and it is proper, under such circumstances, that even the humblest student should stand forward in the defence and advocacy of the truth.

Is the record of the inspired Moses true; or is the lesson of creation, as given by him, a subtle fraud and ingenious fable? Is man to cling with historic pleasure to the divine account of his wonderful and beautiful creation, or is he, by taking passage with the infidel pilots who beckon him from the happy shores on which he has so safely dwelt, to be shipwrecked on the cold seas of speculative and fatal infidelity? Is modern science to

be his friend or enemy? Science, when correctly invoked, becomes one of the strongest handmaids of inspired truth, but, like an efficient servant, she may, when abused, become a most dangerous and insidious enemy. Can she not now, as heretofore, be propitiously approached, and induced to give her wonderful forces to defend and sustain the truth? The truth needs her services, and the truth most needing in modern times her aid, is that which is descriptively narrated by the inspired Moses. Is his record true?

In testing this interesting question, the first subject of investigation must, of course, be the legitimacy and accuracy of the record ascribed to him. As will naturally be supposed, the importance of such an examination early awakened the attention of all relatively interested. The manuscripts of the Jews, those ancient Hebrew records, inscribed on time-worn skins, have been collected with the utmost diligence and energy. The churches, European governments, learned individuals and societies, and wealthy patrons of literature, have vied with each other in this noble and important undertaking. No accessible portion of the earth has escaped untiring and honest scrutiny. The results of these stupendous labors are not only interesting, but invaluable. The discovered records have been expensively aggregated, and the wisest scholars have faithfully studied and compared them. Thousands of these readings have been collected and examined. What is the result? In no single instance has a doubt been established in regard to the meaning and purport of the writer. The details of these collections and examinations would of themselves fill many volumes, and would be to the general reader tedious, if not tiresome, but the grand result is very important, and is, as has been correctly and briefly stated. As recently as 1806, Dr. Buchanan procured, and brought to Europe, a Hebrew manuscript which had been used by the black Jews in India, who, from time immemorial, had been settled there, and had been cut off from intercourse with their brethren and most other portions of the world.

It is a fragment of an immense roll which, when complete,

must have been, it is stated, about ninety feet long. It is made up of pieces written by different persons at different epochs, on skins dyed red. An interesting collation of this manuscript has been made, and it has been found to differ from the standard edition of the Mosaic record in not more than forty instances; not one of these differences being, in the opinion of experts and philologists, of material importance.

Another more interesting and more recent corroboration of the standard edition of the Mosaic record, and of the many thousand existing readings of it which have been discovered and collected, is to be found in the Sinai Bible, which has been, in late years, discovered and brought to Europe. It is wonderfully similar to all previously examined. What is true of this Sinai Bible, is true of all the ancient Hebrew manuscripts; the similarity, if not uniformity, of them all is so wonderful, that the most insidious and learned skeptics have long since abandoned the hope of invalidating, by them, the legitimacy of that version of the Mosaic record now generally received and adopted. The great test of comparison of versions and copies has been thoroughly and critically made, with the earnest, infidel hope of finding irremediable discrepancies, but the result has been a wonderful and most triumphant vindication of the copy of the Mosaic record now so generally adopted.

Authenticity of the received version being then admitted by those who have spared no means of invalidating and destroying it, a detailed citation of the evidences on which their decision has been based would, manifestly, be superfluous and unnecessary.

The validity of the copy being then admitted, it is next proper to examine its truth.

In the execution of this work, the evidences of medical and general science will be adduced; for those who deny the truth of the Mosaic Record have essayed to bring forward such evidence in attestation of the truth and validity of their objections. When those who admit the validity of the Mosaic Record, but deny its truth, appeal to medical and general science in defence

and support of their claims, it is manifest that the true course is to enter unhesitatingly the field which they have selected, and, taking the weapons which they have used, to entail upon them manifest defeat where they had anticipated an easy and complete victory.

It is a marvellous and fortunate coïncidence, that the entire domain of philology should have been simultaneously explored by the repudiators and supporters of the Mosaic Record. The first were animated by the hope that they might discover the parent language, and by comparing it with existing languages, thus deny the whole history of the confusion of tongues, as narrated in the inspired record; while the advocates of the Scripture narrative were equally zealous to find this parent language, feeling assured that, with it, the various dialects of nations could be easily traced, and the authenticity of the divine narrative be thus successfully indicated. It is a significant and suggestive fact, that error should have been the result of these great labors, both on the part of the skeptic and believer. It is equally significant that erroneous conceptions should have been the incentive on the part of each party to such investigations; and it is most significant that, without their respective errors, the truth (humanly speaking), in this connection, would never have been discovered!

Perhaps no field in literature is so vast and diversified, so sterile and yet so fruitful, so barren and so beautiful, as that which was thus so honestly and laboriously cultivated. Where seed was carefully sown, nursed and tended, the soil yielded but a blighted harvest; and where the ground was neglected and undervalued, the return was overflowing and unexpected. The skeptic found least where he anticipated receiving most, and his adversary, just where he had lost all hope of reward, found this most abundant and unlimited. The search after the parent language was, after all the diligence and ingenuity expended, productive of a singular and unexpected result. While no original language could be discovered, it was manifest to all investigators, both infidel and believing, that in the many

languages examined, there were those prominent and unmistakable points of resemblance which enabled examiners to classify languages into great groups or families, and these groups into a few but distinct classes.

It would be inappropriate, and indeed it would be both pedantic and impossible, in such a paper, to present (as obtained from parent sources) the points of resemblance in the elementary roots, principles and construction of the many languages which were analyzed. It would be still more impracticable, in so short a space, to examine the various theories which have been presented, as to the origin of languages; to investigate the varied principles of natural phonetics, and to speculate as to whether the interjection, the adverb, or the noun, were the first introduced. It would be equally impracticable in so limited a space to attempt to explain why, after uniform failure to establish a connection in languages, on the basis of either alphabet or etymology, rapid and triumphant success crowned the labors of all who sought to ascertain the affinity of languages, by comparing the words and expressions peculiar to each. It is only necessary to bring forward the massive fact, that in the laborious researches of expert philologists, the parent language was not discovered, but that similarity in the words and expressions of different languages enabled the investigators to group languages into classes, and classes into a few well-marked families.

There was for many years an inability to discover any affinity between the Indo-European languages and those found Eastward of them. Indeed, many works now published reïterate the assertion of Malte-Brun in 1812, that the Caucasus was the dividing line between languages irreconcilably and specifically different; but those interested in regard to this most interesting question are now aware how Klaproth has shown very clearly that the language of the Alans constitutes the precious link between the great families of languages specified.

In comparatively recent years it has been feared that the American languages were radically and irreconcilably different

from the great Indo-European group; but the researches of Barton, Vater, Humboldt and others, have demonstrated that such fears are groundless, and that the affinities desired and necessary are abundant and demonstrable. The publications, too, of Schoolcraft, and of many equally competent and honest, have shown that there are constant affinities between the American (Indian) languages and the Indo-European group. It is true that, as in all savage nations, contiguous tribes use dialects sufficiently different to insure the isolation and preservation of each tribe; but it is the experience of very many missionaries that a thorough knowledge of any of these American languages furnishes a ready clue to the whole of them; that if one of these languages be mastered, the rest are of easy acquirement.

It is thus seen that there is no instance apparently of a newly-discovered language not being, after due study, referable through the affinities of its words or expressions to one of the great families of languages. These affinities are often established through similarities in syntax and etymology, but the chief medium of comparison is through the words and expressions appertaining to different languages. It is instructive and interesting to see what striking resemblances there are in words taken from languages which are, ethnologically, as well as geographically, widely distant and apart. Thus one finds most remarkable resemblances between words taken from the Latin and Russian languages, as follows: The Russian word pastir (a clergyman) is in Latin pastor; the Russian paschit (he feeds) is in Latin pascit; the Russian vidit (he sees) is in Latin vidit; the Russian agnet (a lamb) is in Latin agnus; the Russian spinu (a thorn) is in Latin spina; the Russian droit (he builds) is in Latin druit; the Russian dome (a house) is in Latin domus, etc.

Every candid mind must admit that the resemblance between these words cannot be ascribed to chance, or to what is so often foolishly called coïncidence. These resemblances, some may say, are all that can be found; but, on the contrary, if one will

give sufficient time and attention to such investigations, the resemblance between the words used by people ethnologically and geographically widely separated is indeed marvellous, thus—

Sanskrit.	Latin.	Russian.	Greek.	French.
Ada (I eat).	Edo.	Yedo.	.....	.....
Bratha (brother).	.....	Brata.	.....	.....
Da (give).	Da.	.....	.....	.....
Divi (two).	Duo.	.....	δεω.	Deux.

One cannot observe without reflection that the American Indians gave to one of their chief rivers the name Potomac, the Greek word for river being potomos. The Indian syntax manifests a strong resemblance to our own. Here is a specimen of the syntax used by the Delaware tribe of the North American Indians. (After Zeisberger) Indian verb ahoalan; to love; indicative mood; present tense.

Singular.	Plural.
N'dahoala—I love.	N'dahoalaneen—We love.
K'dahoala—Thou lovest.	K'dahoalohhimo—Ye love.
W'dahoala—He loves.	W'dahoalewak—They love.

Another specimen of syntax from this language conveys the same lesson. Here is presented an illustration of the syntax used by the Cherokee tribe of North American Indians. (After Guest) Indian verb aluiha; to tie—

Singular.	Plural.
Galuiha—I am tying it.	Italhuia—Ye and I are tying it.
Haluiha—You are tying it.	Antalhuia—They and I are tying it.
Kaluiha—He is tying it.	Analhuia—They and I are tying it.

There are other similarities equally interesting in other languages; thus the familiar words pader, mader, sunu, dokhter, vidhava, are some Sanskrit and some Persian words; a listener might easily mistake them for the English household words, father, mother, son, daughter, and widow, etc.

These Indians have in their language nouns, adverbs, prepositions etc.

Much more could profitably and interestingly be studied in this connection, but a want of time and space forbids this, and it is really unnecessary to add more in this connection, for enough has been presented to show that, in the failure to find

the parent language, philologists discovered in the orthography, etymology, and syntax of languages, such wonderful affinities that they have been enabled to establish great families of languages, and to reduce these to a few well-defined and separate classes. It is admitted that denials have been made as to this establishment of a few well-defined classes of languages. Most of these objections are too insignificant to receive notice. The only really plausible objection that has been raised is this; it has been contended that languages change, and have changed so much that the early condition of a language cannot be demonstrated by anything that may, at the present time, be peculiar to it; and that while there may be wonderful affinities in languages now, this may be due to recent changes in these languages; and by no means proves that such affinities previously existed. This the chief objection, however, has been proved to be entirely untenable; all history exposes its fallacy.

That languages should so change as to be transformed in their fundamental and distinguishing peculiarities, is to assume, to a certain extent, the possibility of their original development; whereas history does not furnish a single example of the spontaneous origin of any form of language. To exclude, however, this reasonable defence, it is sufficient in reply to say that no language has changed in its fundamental construction. The principles peculiar to each great class of languages, it has been demonstrated, are so vital, as to establish for it an individuality inflexible and indestructible. "At whatever period we meet a language, we find it complete as to its essential characteristics and distinguishing qualities. It may receive a finer polish, a greater copiousness, a more varied construction, but its specific distinctiveness, its vital principles, appear fully formed, and change no more. If an alteration does take place, it is only by the springing up of a new language from the substance or remains of the old. Where this has happened, as in the case of the Italian from the Latin language, or of the English from the Anglo-Saxon, there is a veil of secrecy thrown over the change;

the language seems to spin a web of mystery around itself, and enter, as it were, into the chrysalis state. It emerges, sometimes more, sometimes less beautiful, but always containing within itself the vital germs, the fundamental principles of the original language. Thus it has been proved that the Coptic language is identical with the language of ancient Egypt, as recorded in hieroglyphics on the oldest Egyptian monuments. The same has been proved to be true in regard to the comparison of the earliest with the latest Greek and Latin writers. Even where languages are brought forcibly into contact and relation with each other, changes in their respective construction do not occur."

One of the most learned philologists very beautifully writes, as follows: "Though the conquest of Greece brought into rude Latium sculpture and painting, poesy and history, art and science, though it rounded the forms of its periods and gave new supleness and energy to its language, yet it did not add a tense or declension to its grammar; a particle to its lexicon; a letter to its alphabet." What is true of these languages has been proved to be true of the great languages of the East. It is well known, that though the Chinese language has for so long a period been brought forcibly into contact with the perfect system of grammatical construction existing in the English language, that their language is as rude, complex, and inefficient now as it was ever of old.

It is evident, therefore, that languages do not change in their fundamental principles, and that the affinities which exist between them now must, in virtue of this unchangability, have existed since they were severally created, as described in the Mosaic Record. If time has been powerless to change fundamentally any language, how illogical and senseless it is to assume that languages in origin are but the results of circumstances incident to time. If the incidents of time have been powerless to fundamentally modify languages, how much more powerless have they been to create languages. The fair reasoner is thus driven to the conclusion that languages were created independ-

ently of man. History, both sacred and secular, monuments, reason and inspiration, all teach this wonderful, this stupendous fact. Indeed, the proof in this connection has been so overwhelming that scoffers and skeptics, distinguished for their great attainments and profound wisdom, have clearly confessed, that they could not, in the study of languages, discover a single tenable argument for their old claim, that language in any of its forms had been originated or fundamentally developed by man.

If, then, language was created independently of man; if, in reducing all known forms of languages to a few well-defined classes, it is found that these classes manifest grammatical affinities sufficient to indicate a similarity of origin, while there have yet been grammatical dissimilarities sufficient to compel the separation of the representatives of these languages, how interesting, how grand, and how beautiful is the unavoidable conclusion. What is this conclusion? That one language only was created; that this was, by some irresistible agency, divided into groups differing sufficiently to keep them separate, but resembling sufficiently to demonstrate an identity and unity of origin. What higher testimony can philology contribute to vindicate the truth of the Mosaic Record in its grand lesson of the earliest history of man, and "the dispersion" as caused by "the confusion of tongues"? Philology proves the truth of the Mosaic Record.

Ethnography, or the science of the races, constitutes, of course, one of the chief arguments used by skeptics for ridiculing and repudiating the Mosaic teaching of the unity of the human race; this science is equally cultivated by the believers in the Mosaic Record for the purpose of glorifying this record and protecting it. Ethnography constitutes, therefore, unavoidably, one of the chief fields to be examined during the presentation of this article.

Before considering its relations to the arguments that have been familiarly adduced in denial of the unity of race, as taught in the Mosaic Record, it is necessary to briefly examine the

ethnological characteristics adopted with respect to races extinct, and at present existing.

The earliest classification known to science is that of Aristotle, and it required long years of angry discussion before the chief basis, that of color alone, was rejected as unsatisfactory, unscientific, and illogical. It is most probable that this was the first classification ever suggested or recognized; for it rests solely upon that ocular though rude evidence which would naturally, in the infancy of this study, be selected. Literature furnishes abundant evidences of the attention which the earliest nations bestowed upon the differences of color in races; and the speculations as to their cause are, if amusing, ingenious and elaborate. The basis adopted by Aristotle has had able advocates, and among these are to be recognized the familiar names of Buffon, Linæus, Liebuitz, Hunter, and others; though some of these naturalists combined other characteristics with that of color, for the completion of their classification. It is needless to describe these characteristics; for, with the original basis of classification adopted, they have now only an historic interest.

Camper's basis of classification is the next that attracted scientific attention. This is well known as that having the facial angle for its basis. To effect the measurement of this angle, a line is drawn from the external opening of the ear to the nostrils. A second line is drawn from the most prominent part of the forehead to that portion of the upper jaw in which the teeth are implanted; this portion being known as the alveolar process. Between these lines a space or angle exists, which varies with the different crania examined. This angle is technically known as the facial angle, and constitutes the basis of Camper's system of ethnological classification. To give some conception of the relation of the facial angle to the different races of men or of animals, it may be stated that the facial angle of the Chimpanzee or Orang-Outang (one of the immediate human progenitors, according to Darwin, Huxley, ect.,) is 56°; in the African, it is from 65° to 70°; in the Caucasian, it varies from 75° to 82°. It is impossible, however, to dwell at

length upon this now obsolete system of classification. It is more practical, interesting, and important to proceed at once to an examination of the system now almost universally adopted, the great system of Blumenbach.

This naturalist early observed, that in the ingenious system of Camper no allowance is made, in the measurement of brain-development, for the lateral capacity of the skull. Without giving, in tiresome detail, the basis of Blumenbach (it being premised that he also relied upon the color of the hair and eyes as supplementary to his system), it is sufficient for present purposes to state, that his conceptions and estimates of craniological development were formed by looking, from above, downward upon the skull to be examined. If a skull be thus viewed, there is observed an irregular, oval form, this irregularity being largely dependent in its extent and varieties upon hereditary descent, education, and employment. This oval is unusually smooth, or nearly so, posteriorly, while it is irregular in front; this being due to the configuration of the bones of the face. These bones project in different degrees; first, the projection of the jaws; then that of the nose; and lastly, that of the forehead. In Blumenbach's system, great attention is bestowed upon the variations of the zygoma or arched bone, extending from the temporal bones or temples to the bones of the cheek. When the skulls of different races are viewed from above, it is apparent that the varied configuration of the parts named will give varied and contrasted outlines.

Comparison of skulls, by this method of downward inspection, with due attention to complexion, color of hair and eyes, constitutes, briefly and substantially, what is known as the great system of Blumenbach.

By this method he established the familiar classification taught now even in primary schools. The chief divisions are represented by the Caucasian, Mongul, and African races. Between the Caucasian and African races, Blumenbach established a fourth, the Malay; and between the Caucasian and Mongul, a fifth, the American race.

With the great and striking variations of complexion, color of hair and eyes, contour of skull and facial angle, thus existing in the human race, is it possible to reconcile such differences with that teaching of the Mosaic Record which ascribes to such diverse races a similarity or unity of origin?

In examining this question, it is first desirable and proper to show that in the vegetable kingdom, and next in that of the inferior animals, there have been (and there are now) greater departures from the original types than are to be found in the physical history of man. Such analogical reasoning is not only suggestive and instructive, but it prepares the mind by successive examples and gradations (in the state of being) to perceive and appreciate with less surprise those ultimate truths which, if presented without such a preparation or introduction, would be more difficult of comprehension. The elevation which is easily attained by uniform and successive steps, requires a severe struggle to reach, when this must be done by a single effort. As the human body, by gradations or steps, easily reaches great elevations, almost unattainable otherwise, so it is with the human mind. In the study immediately engaging the attention of the reader, this important fact will be illustrated. First, then, the reader will be called upon to examine the departures from the original types in the vegetable world and in the different races of the inferior animals. If all of these variations or departures were to be narrated, this subdivision alone of the subject would transcend the limits assigned to this entire paper. Rejecting, then, those examples which are less striking and which are always accepted without contention, the exposition will be confined to a display of the most conspicuous departures from original types; for it is these departures which constitute the chief and most instructive subjects of this great study; they constitute a very material portion of the whole field of the argument.

It is evident that if fair and proper reasons are given for admitting a similarity of origin in extreme and apparently diverse races of animals and plants, there must be removed great

difficulties in admitting an identity of origin in varied and diverse races of men.

In the vegetable kingdom, nearly all of the fruits used by man have been by domestication and cultivation so changed in shape, size, weight, color, taste, and development, as to have their origin, in most instances, masked, and in some even destroyed. The experience and observation of each reader render illustration here but a useless consumption of his time and attention. There is not a Fair held anywhere in the civilized world without the most abundant and interesting illustrations of these suggestive facts. Indeed, the display of new "varieties" of every kind of fruit (new departures from their original types) is so universal and common as to excite notice only, without comment or surprise. The same experience is to be found in regard to the choice varieties of roses, dahlias, and most, if not all, of the admired flowers. Improved cultivation and change of surroundings have altered not only their size and configuration, but their fragrance has been increased, their very habits changed, and their coloring (complexion) entirely transformed. Illustrations of these facts are to be found in every garden.

The grape from which the celebrated clarets, the "Chateau Lafitte" and "Chateau Margeaux," are made, are separated by only a hedge from the original stock, whose grapes, similarly treated after the harvest, yield but the poorest and thinnest wine. Cultivation, differences in care and culture, have transformed the original poor fruit into the prolific parent of the most celebrated wines. The fibre of the sea-island cotton, grown in South Carolina, and the fibre of the short-staple cotton, grown on the highlands of the same State, came originally from the same source, but domestication, improved culture, changes in climate and soil, have transformed the brittle fibre of the short-staple cotton into that glossy, silken, beautiful material from which the most beautiful Mechlin and Brussels laces are made. It is unnecessary to multiply examples; each reader is familiar with examples almost innumerable. Such is

the testimony of man's fruits and flowers, his solaces and his staples, to the great fact of the unity of his race.

In examining another kingdom, there is found still more to startle, interest and instruct.

In some countries, as in Guinea, most of the dogs, and domestic fowls, are black. Throughout Italy, the ox is usually red, except in the Campagna, near Rome, where he is usually grey. The Italian sheep are almost always black; in England they are usually white. In some of the islands of the Mediterranean, most of the horses and dogs all become spotted, and remain so. The coach-dog of Corsica presents his peculiarly spotted skin as the result of climate, and not of breed; for both the dog and horse manifest there this remarkable peculiarity. Complexion in an enlarged sense is, it seems from these many instances given, specially and peculiarly under the control of climatic laws. But these laws affect more than the complexion or exterior coloring of animals. The beautiful and costly wool of the merino sheep becomes, when the animals are transported to tropical latitudes, coarse, hairy, and valueless; yet if the animal be sent back to its native climate, its wool is speedily restored to its original beauty and value. Beckman says that the sheep in Guinea can only be recognized by their bleat, so completely does peculiarity of climate rob them of almost all resemblance to the original type of this animal. In that climate, the wool is all lost, and the skin of the sheep resembles that of almost hairless dogs. The cattle of South America differ almost entirely from the cattle of Southern Europe. The Sussex, Grazier, and Berkshire pigs, differ radically from the animal even of the last century. Indeed, Blumenbach stated that the skull of the domesticated hog differs more conspicuously from that of the wild boar (its original type) than does any human skull differ from any other human skull among the vast number in his possession. Without going further into impracticable details, it is demonstrated that climate, domestication, and isolation, have worked changes even more remarkable and radical in the animal world than are to be found in the

vegetable kingdom; changes sufficient to suspend, suppress or destroy the peculiarities and distinguishing characteristics of the original types.

These are briefly a few of the lessons taught by analogy; and while analogy is not positive argument or demonstration, and is not claimed as such, it is the instinct of every fair mind to more readily admit the fact of great departures from the original type of man, when it has been proved that even greater departures than these are to be found, throughout the history of of the world, in the vegetable kingdom, and in the so-termed lower orders of the animal kingdom. The proof of departures from original types in fruits, flowers, vegetables, staples; in birds and beast, is not proof of similar departure from the original type in man; but it certainly prepares the mind to properly recognize and estimate this fact. Analogy is not proof, but it is fairly, by all minds, classed as reasoning. It is only asked that it be received as such. Having seen what are the many and varied departures from original types in the vegetable and lower animal kingdom, it is now proper to investigate the extent of these departures in man.

However numerous may have been the disputations, in this connection, in regard to minor points and variations elaborated by petty disputants; however great the importance which has been attached, by scientific partisans, to minor differences in the physical, physiological, and even psychological organization of the human races, the liberal and large-minded, on both sides, have unquestionably narrowed down the argument to variations chiefly in craniology, in hair, and in complexion.

Many are the extravagancies which the desperation of partisan argument has developed, but these are becoming forgotten; and, as they are immaterial in the argument, it is best that they should be forgotten, and not again reviewed.

The discussion will, therefore, be confined to the variations known in regard to skull, hair, and complexion. The history of many tribes shows that even accidental variations in physical conformation and development have been perpetuated, and this is

equally manifest and true in the history of the so-termed "varieties" in flowers, plants, and the lower animals. These accidental changes in form have been accurately perpetuated. Climate, mode of life, domestication, and what is called civilization, are all now recognized as efficient forces in the production and perpetuation of physical irregularities. No one can doubt, where tribes far distant from each other, and now separated ethnologically as well as geographically, speak a language almost similar, or manifesting the most intimate affinities, that these tribes were at no distant period identical.

Many tribes in Hungary use, as is well-known, a dialect similar to that used in Northern Russia, and even in Siberia. Travelers have frequently observed and reported this interesting fact. It is evident, from philological facts, that these people, so widely separated now, were once of the same race or tribe. Having once been near-dwelling kindred, with distinct tribal peculiarities of physique, what has been the extent of change in their anatomical configuration caused by change of latitude, climate, customs and associations? Their height has been reduced; the contour of the skull altered; and the complexion changed. No one, it is said, can at present find any other point of resemblance between these tribes, than the language which proves them to be of identical origin.

Facts equally significant are stated in regard to those Arabs who once children of the Desert, and subjected to its perils, wants, and exposures, are now denizens of the interior towns, and impressed by the surroundings of approximate civilization. The skull and physique of these Bedouin Arabs have so conspicuously changed, that their language alone indicates their past habits and mode of existence.

It is well known that many of the negroes in the West India Islands, although retained on isolated farms, have had the skull so changed by domestication and the surroundings of civilized life, as to have lost those salient physiognomical peculiarities which characterize the crania of most African tribes. But it is useless to multiply illustrations, for the most bigoted par-

tisans have been compelled to admit that the configuration of the skull is, to a great extent, the result of causes in daily and familiar operation; and, it may be safely said at the present time, that it would be the extremest and most demonstrable folly to seek, in craniological variations, for a single argument subverting the truth of the Mosaic Record, as to the unity of origin in the human race.

In regard to the hair, it is necessary to say but little. Improvements in the microscope have disproved and set at rest all of the senseless and untenable statements as to differences in the structure of the human hair constituting any basis whatever for establishing a difference in the human races. There is no elementary, no histological difference of structure in the hair of the African, Indian, or Caucasian; the familiar corrugations of the hair of the African are by no means characteristic of his race. It is well known now, from the records of travelers, that in Africa the different tribes of negroes manifest conspicuous varieties of hair. In some it is corrugated and short, while in others it is straight and long; in some it is nearly red; while in others it is black.

There being, then, no difference in the elementary structure of the hair of the human race, while there are infinite varieties in regard to its color and physical configuration, it is evident that differences in the hair cannot constitute even the most feeble argument for proving a want of unity in the human race.

It having now been demonstrated that causes in familiar operation have been sufficient to produce radical changes in skull configuration, and that hair cannot be naturally accepted as an absolute characteristic of race, the argument is now reduced to that remaining element of variation in the human family, the complexion.

It is not pretended that the color of the hair and complexion are due to similar causes. Every beginner in physiology has been more accurately instructed; but no one can deny that the tissue from which the hair springs, and that in which the cuta-

neous pigment-cells are embedded, is the same; and that as climatic laws alter and modify the hair-bulbs, a part of this tissue, so they may alter also another portion of this same tissue, the pigmentary cells. Were this fact denied, there are abundant evidences to establish its truth. The dark-skinned and black-haired Jew has, by removal from southern latitudes to Northern Europe, become entirely changed; the black hair has become light; the black eyes blue; and the dark skin fair. Again, by removing from Northern Europe to India, the light hair, fair skin, and light eyes of the Jew, have all become dark. There are, however, still more convincing illustrations to be obtained from the records of the traveler. To religion and science there are few more precious records than his. Champollion, a traveler in Egypt, makes the once apochryphal hieroglyphics of that country, eloquent witnesses against the previously admitted claims of Indian philosophy and Chinese astronomy to mythical and anti-Scriptural antiquity. Layard finds in the cunei-form lettering amid the ruins of Nineveh corroborative evidences of the truth of Biblical history. Egyptian temples and Mexican monuments have furnished through travelers the missing links in valuable testimony; while the dialect of a Caucasian tribe (the Alans) has become the central key for completing the impregnable arch of philology. The records of the traveler furnish all-efficient testimony for completing the argument relative to the power of climatic influences, in modifying or transforming the complexion of the human family.

The Jews are, in both their human and religious relations, "a peculiar people." "Of all surprising phenomena, there is, perhaps, none as wonderful as that of the Jews, preserving, through long centuries, their distinguishing physical features. It would have been comparatively nothing, had the Jews remained in India, that they should have continued marked off from every other people; but that they should have been dispersed into all nations and yet have amalgamated with none; that they should be everywhere found, and yet everywhere the same; that they should submit themselves to all forms of government, and adopt

all varieties of customs, and yet be unable, after any lapse of time, to extirpate their national marks, this may indeed be pronounced to be unparalleled in the history of mankind." This wonderful people, furnishing volumes of interest to the antiquarian, historian and theologian, are even more interesting to the friends and students of science. By their records and exclusive laws, great facts may now be demonstrated which would otherwise be successfully disputed and denied. In the argument now before the reader, the history of these peculiar people furnishes the most interesting and valuable material. Here is a most valuable and satisfactory illustration of this statement.

When the Jews settled in India, they differed in no respect (according to their records and traditions) from their brethren in Southern Europe, in their physical appearance and configuration. Intermarrying among themselves, and avoiding marriage (as is their custom) with those among whom they dwelt, subsequent changes in their physique can, in no logical respect, be attributed to the physical influences of those surrounding them. What is the testimony of Dr. Buchanan in regard to the Jews of India? That with a strict and most religious preservation of their caste, they have become as black as the blackest of those among whom they reside. Special attention is called to this. The fact that these same people, when moving to Russia, had developed opposite physical characteristics, is conclusive proof that there is no inherent cause for the striking change which has resulted from their habitation of India.

It may be said that the facts in regard to India are exceptional, if not solitary and unsatisfactory. What is the testimony of that great and truthful traveler, Burckhardt? On the African coast, near the Red Sea, are to be found, says he, two colonies of Arabs and Turks who, originally white and still speaking the same language of the white nations from whom they sprang, have become not only black, but have conspicuously changed in the character of their original features.

There are additional instances of this interesting phenomenon,

but as there is no object in multiplying examples, one more fact only of this kind will be mentioned. The natives of Abyssinia have as a whole people become entirely black. Their language, which is represented to be one of the dialects of the Semitic, their configuration, physiognomy, and expression, all prove them, independently of their history, to have been entirely white. Examples of small classes and many individuals could be given, but for this course there is not space, and indeed there is no necessity.

It is not pretended that there is ever a direct and unchanging relation of latitude to color; the negro preserves fairly his complexion in Canada, and the North American Indian frequently becomes no darker when removing to the neighborhood of the equator. While there is often and indeed usually a darker complexion in the tropical latitudes, and a lighter complexion nearer the poles, the general law, it is admitted, manifests many exceptions. Why these changes occur in India and Africa, and do not usually occur in other tropical climates, has been a fruitful cause of most interesting speculation and profound study. The reason has never been clearly demonstrated. In the recent and rapid advances, however, that have been made in the researches appertaining to the laws of light and the media which it traverses, there is just reason to hope that science may soon be enabled to disperse the cloud of obscurity and uncertainty which has so long enveloped this important subject.

The writer offers what he believes to be fair reasons for the fact, that, in Africa, in India, and in latitudes where similar solar and atmospheric peculiarities exist, the complexion becomes either black or approximates, as a rule, to this condition.

The suggestion is, as he admits, crude and not properly elaborated or fortified before presentation, but it is still given, with the hope that others, enjoying better opportunities and more time for such study, may investigate the matter and demonstrate either its truth or its untenability. The reasons are at least suggestive, if not absolutely correct. To appreciate the

suggestion given, it is necessary for the reader to refresh his memory in regard to a few chemical and philosophical truths.

If a sunbeam be allowed to enter a darkened room, it falls on the floor and forms a disk of bright light. This is radiated to the eye, which conveys the impression to the brain, and the phenomenon of light is appreciated.

Should the hand be placed in the track of the sunbeam, the sensation of warmth is communicated, and one feels that there is heat in the ray.

If a piece of paper, covered over with nitrate of silver, which is purely white, be placed so that the sunbeam falls upon it, a darkened track will be immediately produced over the space traversed by the sun's ray. Here, then, is evidence of actinism or ray-power; a term adopted to express the chemical force of the sunbeam.

Thus there are three functions in the sunbeam; light, heat, and actinism.

These all differ from each other; as may be demonstrated.

A piece of black mica will allow no light to pass through it, but offers no obstruction to solar heat.

A plate of glass stained apple-green with oxide of copper allows light to pass, but no heat.

Glass stained yellow with chloride of silver allows a flood of light to pass, but the actinic principle of the ray is obstructed. Again, glass colored blue with oxide of cobalt allows the actinic ray to pass, but prevents the passage of the light and heat of the sunbeam.

The fact of yellow glass preventing the passage of the actinic ray has already been seized upon, practically, by the photographist, who no longer retreats to his darkened cell (feebly illumined by artificial light), for, after excluding the actinic ray by the yellow glass, the light and heat rays of the sunbeam are powerless to injure the delicate chemical reactions which produce the photographic image. These illustrations demonstrate the fact, that the sun's ray is variously analyzed, dissected, and modified by the different media through which it passes.

The heat and light elements of the sun's ray are materially changed and diminished by their passage through watery vapor, while they exert their full force and effect when passing through a clear and dry atmosphere. It is a most interesting phenomenon and fact, that the distinguishing peculiarities of the atmosphere of Africa and India are clearness and dryness, these being the result of the well-known fact, that in the countries mentioned, rain is seldom seen, and that years often elapse without the fall of even an ordinary shower. Watery vapor is conspicuously absent from these atmospheres. Indeed, it is notoriously due to this fact that those wonderful monuments, which have there for centuries been exposed and uncared for, show so little evidence of the corroding hand of time.

While no logical evidence can be produced of the scientific relation existing between atmospheres free from all obstruction to the burning elements of the sun's ray and the wonderful phenomenon of a white complexion, when exposed to such agencies, becoming black, it is at least a striking coïncidence that such results are only found under circumstances so peculiar and atmospheres so remarkable.

All of the facts, however, in regard to these changes of complexion, irrespective of cause, are disregarded by the opponents of the Mosaic Record, because, as is said by them, such facts prove nothing. It is contended by them that such changes do not usually occur, and if they do not, that all explanation and arguments become irrelative, untenable, and valueless. It is difficult to know in what terms to characterize such unfairness and sophistry. The reply, however, is simple and conclusive. The facts of these changes in complexion are undeniable, indisputable, and it is wholly unnecessary to require, in a logical argument, that they should always or even usually occur. If they have occurred, not once or twice, but repeatedly; not in individuals, in rare instances, at long intervals and distances, but in whole tribes and nations, it is passing belief that, with such evidence, the origin of the negro race should be

regarded as disputable, and that the inspired record should be dishonored and discredited.

It is assumed that these facts, when considered in a spirit of candor and fairness, are quite sufficient to set at rest that form of skepticism which, from diversified skull-developments, varieties of hair and different complexions, essays to subvert the Mosaic Record. Ethnography establishes the truth of this record.

In modern times there has been much uneasiness created on account of the alleged discrepancies between the teachings of Scripture and those of the science of geology. All had been accustomed to conclude, with the Bible as a guide, that this globe was not quite six thousand years old; that six thousand years ago the matter of which it is composed was not in existence, much less was it the home of animal and vegetable life. All had been wont to think that, unless man had fallen, there would have been no decay and no death in this creation, so that every beast of the field would have walked in immortal strength and every tree of the forest have waved in unchanging verdure. Modern science has, however, destroyed all of these convictions, and geology compels the scientist to assign millions rather than thousands of years, as the age of this globe; and to admit that it was tenanted by successive tribes of living beings long before the period which marked the creation of man.

Without examining here in detail these premises of the geologist, it is sufficient to admit them to be correct. The earth bears upon its surface and in its structure conclusive evidence of an antiquity nearly immeasurable. There is, however, no impossibility of reconciling the researches of geology with the teachings of Moses. Theologians and divines, as eminent for their scientific erudtion as for their piety, have long admitted that the period described in the two first verses of the book of Genesis have no immediate connection with the periods described in the verses which follow. The first and second verses describe the first creation of matter; but so far as anything to the contrary is stated, a million of years may have elapsed be-

tween this first period and that existing, when God said, "Let there be light."

Here are the important extracts from this interesting portion of the record of Moses, as given in the commencement of the book of Genesis:

1. "In the beginning, God created the heavens and the earth.

2. "And the earth was without form, and void; and darkness was upon the face of the deep: and the spirit of God moved upon the face of the waters."

No one aware of the demonstrable fact, that the writings of Moses are aggregations of historical fragments, chronologically not immediately consecutive, will contend that there is a direct and immediate sequence of time between the period thus described and that when, with the creation of light, God created also man. It is impossible to show that the period described in the third verse (which records the creation of light) is consecutive immediately to the period described in the two first verses, which describe conditions long antecedent to the existence of light. On the contrary, as has been well said, "it is clear that this interval may be wholly indefinite; quite as long as geology can possibly ask, for all of those mighty transformations, those ponderous successions, of which it claims the ability to produce its evidence." While the earth was without form and void, there could well have occurred that immeasurable series of years, with the visible existence and record of which geology undertakes to dispute the accuracy and deny the truth of Scripture; that immense period, in comparison with which human chronology is but a span; when the archives of nature were written in those material strata which geology justly accepts as the true index and record of time; that grand era whose interesting phenomena man was not allowed to witness, but whose epochs and incidents he reads in the mighty volume of the coal beds, and in the gigantic fossils dug from a thousand hills. The periods required by geology for the completion of the great events clearly recorded in the leaves of its sublime volume are

mighty indeed in duration. Says one of the ablest geologists: "There must have been time enough for water to make depositions more than ten miles in thickness by materials worn from previous rocks more or less comminuted; time enough to allow of hundreds of changes in the materials deposited, such changes as now require a long period for the production of a single one of them; time enough to allow of the growth and dissolution of animals and plants, often of microscopic littleness, sufficient to constitute almost entire mountains by their remains; time enough to produce, by an extremely slow change of climate, the destruction of several nearly entire groups of organic beings; time enough for erosions to have taken place in the rocks, in an extremely slow manner, by aqueous and atmospheric agencies on so vast a scale, that the deep cut through which Niagara river runs is but a moderate example of them. We can judge of the requisite time for such mighty deposits by looking at changes now in operation. The lakes of Scotland, for instance, do not shoal at the rate of more than six inches in a century." What must have been the duration of periods, during which miles of deposits demonstrably occurred? But geology gives evidence not only of the occurrence of the immeasurable period indicated in the fragmentary history of Moses, but it furnishes unanswerable proofs of the great event which he so well describes, the deluge.

First, we have "the valleys of denudation," as they are called, or valleys shut in by hills, whose strata correspond so exactly with those of the valleys as to make it evident that the valleys have been scooped out by some mighty agent, not now in operation. These valleys all run toward the sea, showing the nature of their origin, and the manner in which the immediate agences in their production was withdrawn. On the sides of these valleys are heaps of gravel, foreign in composition to the soil on which they are found. In this gravel, are to be found frequently the bones and remains of bones of animals not common in the country in which they have been discovered. Next, there are to be found large pinnacles of granite,

formed evidently by no other cause, than the destructive attrition of water on the material by which they were once surrounded. Again, there are huge bowlder-stones, weighing many tons, lying on soil differing from them irreconcilably in structure and composition. Rocks found only in Siberia or Russia, represented by isolated bowlders on the plains of Germany; rocks from Norway deposited in Scotland; and the pebbles of Scotland scattered on the soil of England. Erratic blocks from Finland resting in the fields of Russia and Poland. Deposits of sands and rolled masses of rock about Lake Huron, that are to be found in parts far to the northeast of these localities. The mixture of human bones and the bones of the lower order of animals, with gravel and detritus, in the caves and crevices of the rocks. The exhumation of entire skeletons of animals absolutely peculiar to tropical countries, found beyond the waters that bound those countries; and, as is familiar to many, the skeletons of tropical animals found in the frozen mud of the polar regions. The fact that these deposits of rock, stone, pebbles, sand, etc., are always to be found in a direction southwest of their original source, is a most interesting evidence of the universal operation of some singular and all-controlling power. It is not necessary to examine here the causes which gave these bodies their impetus in this direction, for the fact is all that is chiefly significant and important. Such are briefly a few of those interesting facts which have formed the subject of the sublimest, most instructive, and conclusive chapters in geology.

Surely it must be interesting to see a science which was justly classed as most pernicious to the truth of the Mosaic Record become one of its strongest supporters, and one of its most eloquent witnesses. It was religion which gave to geology its birth; and it is gratifying to see that, after so many years of wandering from theory to theory, and vision to vision, the child returns again to its parent; returns again to its home; not as it went forth, empty-handed, wilful, and dreamy, but rich in priceless treasures; treasures to be laid, as an atoning

sacrifice, upon that altar which it had so long prostituted and so persistently defamed.

There are many varied and other proofs that might demonstrate the truth of Scriptural history, to which only a passing allusion can be made, but which have each furnished subjects for interesting volumes. The deciphering of the hieroglyphics on Egyptian monuments, by Champollion and Young, have, with the key obtained from the Rosetta stone to the Demotic language of the country, furnished the most interesting corroboration of recorded genealogies and historical events. The deciphering of the Zodiacs of Dendera have refuted the claims of Indian philosophy and Chinese astronomy to anti-Scriptural antiquity. The assertion made that wine was used by the Egyptians, and which even by the most friendly commentators was admitted to be an error, has been wonderfully confirmed by the recent explorations of subterranean Egyptian apartments, on the walls of which the whole process of wine-making, from the vineyard to the wine-vat, is rudely delineated; while wine flasks on monuments, and the discovery of tartaric acid (deposited from wine) on pieces of broken pottery, near the Temple of Isis at Philæ (on the Nile) gives conclusive evidence that these rude drawings are to be accepted as pictorial histories of an art which was well known and in actual operation. Ancient medals and the designs on early monuments furnish interesting illustrations of the phenomena of the deluge. One of the most interesting of these medals is large and in bronze, and found in Phrygia. In the great court at Karnak, in Egypt, is a bas-relief representing the conquest of India by one of the kings of Egypt. These physical evidences are varied and eloquent. It is impracticable to describe them. The remainder cannot be even included in this brief summary.

Passing in conclusion from such evidences, it is proper to hastily glance at those derived from man's moral organization.

There is among all nations an inherent tendency to establish types and standards of physical and moral excellence. The

ancient followers of Michael Angelo, of Raphael, and of Leonardo da Vinci, saw no beauty in the brush of Titian, or Paul Veronese, though these masters founded and sustained the Venetian school of painting; those accustomed to the bold lines and dark shades of Rembrandt and Vandyke, looked without appreciation at the magic lines of Claude; while separated only by the Pyrenees the disciples of Mürillo and David find excellence in antagonistic types of beauty. So it is with sculpture; in earlier years those colossal embodiments of fantastic conceptions which adorned the halls of the Egyptian kings and received so uniformly the fostering care of Sesostris, awaken now only emotions of astonishment and surprise. Illustrations in this connection are too suggestive with each one to warrant their multiplication. With such conspicuously evident tendencies in the human family, it is only through the fact of unity of origin that one can understand how it is, that all nations of every latitude, descent and education, differing so extremely and historically in their types of physical beauty and moral excellence, have been able to recognize the type of physical and moral perfection in one so antagonistic to their natural types and instincts; in one representing in himself the type of that moral and absolute unity so universally felt and acknowledged by all classes of mankind.

It has been demonstrated in this paper, so far, that the Mosaic Record now used is authenticated; in testing its truth, that philology proves the impossibility of origination of language by man, and that all of his languages now used are so bound together by affinities of words and expressions as to render the identity of origin in all of them evident and undeniable. It has been proved that a departure from original types is greater in flowers, vegetation, and in the lower animals, than it has been in man. It has been shown that climatic laws produce changes of size, form, weight, habits, and complexion in vegetation and in the lower animals. It has been demonstrated that these laws have worked such changes in man, that white races have become black, losing all of their race peculiarities,

save language alone. It has been shown that geology does not subvert the teachings of the Mosaic Record, but that, on the contrary, this science confirms and sustains them. Lastly, it has been stated that while nations, in art and poetry, and in all of their conceptions of physical excellence and moral perfection, have been antagonistic and contradictory, they have, by recognizing the highest historical type of physical, mental, and moral perfection, given the most crowning evidence of unity of creation, and of identity of origin. Philology, physiology, ethnography, and geology, have thus contributed their evidences in support of the truth of the record of creation, as given in Genesis. It is submitted, therefore, that reasonable evidences have been presented for claiming "MEDICAL AND GENERAL SCIENCE AS VINDICATORS OF THE TRUTH OF THE MOSAIC RECORD." This constitutes, therefore, the conclusion of the first part of this paper.

If then it be admitted (for it cannot be denied) that there is nothing in the book of Genesis claiming an immediate sequence of time in the period described in its two first verses and in the period described in subsequent verses, it is illogical and senseless to assert, that the Mosaic Record is, in its teachings, antagonistic to the manifest and undeniable chronological evidences of geology. The Mosaic Record admits the claim of geology in the immeasurable lapse of time necessary for the formation of the successive and gigantic strata existing in the earth's structure. Geologists cannot, therefore, without the most absolute and demonstrable folly, assert that geology, in any of its chronological deductions, proves the chronological epochs and descriptions of Moses to be either untenable or untrue. His teachings, and the strata teachings of geology are harmonious and in entire accord with each other. Geology sustains, therefore, and does not subvert the chronological descriptions of his record. So much then for mere reasoning in regard to the deductions and lessons to be gathered from the text of this record. As it is evident, therefore, that geology does not subvert or invalidate the teachings of Moses, it is proper to show that this

science contributes some of the most valuable facts in demonstration of his correctness and truth.

Before entering into the discussion of the second part of this paper, it is proper that some mutual understanding, on the part of the reader and writer, should be established in regard to the meaning of the terms "Development" and "Selection;" for, of course, this meaning is arbitrary, or at least special, and is not confined strictly to the signification based upon their etymology.

"Development" is a conventional term, now used by most scientists to account for the origin and developments of animal and vegetable life independently of the fiat and laws of creation; or if there be "creation," admitted in a few instances by them, this term is then used to account for the multiplication of genera and species independently of Divine power.

"Selection" is the term used to express that supposed inherent force in animal and vegetable forms, as the result of which the poorer and weaker forms or manifestations of organic life are destroyed or become extinct, while the stronger are perpetuated and made perfect.

It will be appropriate to first consider the dicta and reasonings promulgated in regard to the doctrine of "Development." Darwin, Huxley, Spencer, and those of less distinction, who claim the existence of forces, apart from those of divine creation, set forth their special views in detail and in carefully prepared volumes. Such objections as may be offered in so brief a paper as the present must, to a great extent, be offered without the use of impracticable details, and will be confined to brief, though (it is believed) accurate statements.

In considering the objections to be properly made to the views of those advocating the principles or forces of what they term Development, it should be borne in mind by the reader that some of these writers claim the existence of vegetable and animal forms to be independent of all laws of creation, and are advocates consequently of spontaneous generation. Others of the more modern school admit the creation of a few forms,

and claim that from these, by the forces of development inherent in them, infinite genera and species (animal and vegetable) were brought into a visible and perpetuating existence.

It is necessary to examine first the supposed or assumed forces which, in the opinion of many spurious scientists, are capable of originating life; in other words, to see upon what grounds rest the claims of those who believe that there is such an anomaly as spontaneous generation.

It is manifest that all forms of life, whether animal or vegetable, are but the aggregation of the elements of which they are composed. All manifestations of life are made up confessedly of these elements, and these elements are known proximately as "cells."

Whether the bone or the muscle, the nerve or the fat, the lignin or the cellulose, etc., be examined, it is found that they are made up of "cells." It is, therefore, unavoidable, whether reasoning in favor or against the doctrines of spontaneous generation, that all such reasoning should be addressed necessarily to the origin and development of cell-life.

It might be very properly said, that cells are not the elements of existing forms of life, and that these elements are necessarily represented by those minuter elements of which each cell is composed, these elements being oxygen, hydrogen, nitrogen, mineral and metallic elements, etc., etc.; and if the advocates of spontaneous origin cannot demonstrate how these last elements come into existence, their claims in regard to spontaneous generation are not only untenable, but devoid of all foundation. Inasmuch, however, as they have not been required to answer these important and indeed unanswerable questions, but have been allowed to commence their arguments on the assumption of the spontaneous existence of the elements of which cells are composed, the advantage which has been given them, though thus clearly exposed, will not be denied them here. The reader is particularly asked to observe, however, that the advocates of spontaneous generation have never pretended to show in any sensible manner how these

ultimate elements of cells were brought into existence; or, if they have attempted this, their best effort has been as follows: That these ultimate elements, nitrogen, oxygen, etc., existed as the result of the decomposition or decay of earlier existing forms. One might as well claim the spontaneous origin of a house, from the previous existence of bricks; or claim the existence of a bird, from the previous existence of the egg. Their answers are as follows: Where did the bird spring from? the egg; and from what source did the egg spring? the bird. Their reasoning in this part of the subject is exactly of this nature; for, when asked whence sprang animal and vegetable cells, they answer from hydrogen, nitrogen, oxygen, etc.; and when asked whence these elements came, they answer from the decomposition of previous forms. It may fairly be said, therefore, that until the advocates of spontaneous generation account for the existence of the elements of which cells are composed; until they show how nitrogen, oxygen, hydrogen, etc., originated, it is senseless for them to claim anything whatever as proved by them in regard to the possibility of spontaneous generation. Giving them, however, these great factors; assuming that oxygen, nitrogen, etc., composing cells, come into being as the Topsey of Dickens did, that they were not made, but "just growed," it will be seen that, with these bricks given them, they cannot even then construct their house. Granting them the spontaneous existence of the ultimate elements of cells, they cannot even then show that the cells are of spontaneous origin. They are ludicrously powerless in every effort to invalidate the great law, that all cells are formed of matter endowed with the undeniable forces of vitality. They cannot deny that the matter composing cells is living matter previously created. They are forced to admit, that all cell matter, as well as all the cell elements, (nitrogen, hydrogen, oxygen, etc.,) was created. This can be briefly and satisfactorily demonstrated.

It is but little more than thirty years since that the great Schwann applied to the animal creation all of the laws which Schleiden had made known through the medium of his writings

on the origin and growth of vegetable cells. Schwann asserted that all animal tissues are actually produced from cells, and that the aggregate of cells and cell-growth constitute, in reality, organized bodies. The origin of these cells he ascribed to the operation of certain laws, in obedience to which, from any organic fluid, there was formed a structureless nest or blastema or cyto-blastema; in this there appeared a point, or nucleus, or nucleolus, which constituted the initial point of organization. This nucleus or nucleolus attracted other matter, and this matter, becoming more and more condensed, arranged itself in the form of a membrane; to this membrane, of a spherical shape, he gave the name of cell-wall; and to the little body, as a whole, the name of cell. This mode of cell-formation was by a species of crystalization or aggregation of organic material. These cells increased; first, by division (fissiparation); second, by budding (gemmation), one cell giving off shoots or buds, forming a series of cells; third, by the parent cell producing within itself a series of cells (endogenous multiplication). To any of these methods the term proliferation was applied. It will be seen that this "free-formation" teaching of Schwann was nothing more nor less than that of "spontaneous generation"; the most unquestioned materialism, and a denial of all the laws of special creation.

This teaching, so dangerous, was at once accepted and generally promulgated until 1853, when Mr. Huxley claimed, with great force, that cells are but the *results* of vital organization, and not the *cause*. This virtually was to deprive atheism or materialism of its strongest argument; it was to eject it from its stronghold. It was to make cells and cell-growth but a manifestation of a living force elsewhere derived; the *offspring*, and not the *author* of life. Mr. Huxley's writings were acknowledged to be masterly, and exercised great influence upon the scientific mind, until the great German, Virchow, came to the aid of his countrymen. According to Virchow and his followers, all nature was but the aggregation of cells. While bringing masterly arguments to sustain Schwann in this respect,

he rejected the materialistic teachings of Schwann in regard to "the free formation" of cells, or "spontaneous generation." According to Virchow, every cell must spring from a cell, omnis cellula é cellula. This was fully acknowledging the whole claim of original creation, inasmuch as if every cell springs from a cell, the original cell must have been created. Could this teaching have remained unquestioned, science would have contributed her quota to the verification of the divine lesson; but there was but a brief interim of rest before Robin and his French adherents denied the truth of the assertions of both Huxley's followers and the advocates of the modern German school. The French school became clamorous advocates of a still different teaching—viz., that the synthesis of proximate principles resulted in "spontaneous generation." It may be said that this was the original teaching of Schwann, but it differed from it in this respect, that though both admitted the doctrine of "spontaneous generation," Schwann regarded organized bodies as a federation of cells, while the modern French school claimed that cells, *if originally present*, disappeared, giving place to tissues. This system was dignified with the appellation of "birth by substitution."

It was at this period of confusion and danger that Dr. Beale, by his improved microscope and his wonderful efficiency in the use of this instrument, made those beautiful discoveries which have given to the scientific world, order, beauty, facts, and harmony, in exchange for discrepancy, irregularity, theory, and bewildering chaos. Since his patient and efficient study of cell-origin, cell-formation, and cell-growth, the whole subject has been simplified; dangerous and illusive theories have been dispelled, and a broad substratum of truth has been estabtablished, upon which is built the beautiful superstructure of scientific progress and moral harmony.

Beale, as the result of his investigations, discards the classic names of nucleolus, nucleus, cell-contents, cell-wall, etc., etc., and limits the elements of the histogenetic problem to two

substances only; these being called by him "germinal matter" and "formed material."

According to Beale's discoveries, there is nowhere to be found those bodies which Darwin is now making so notorious, the "primordial forms"; and if there be not these primordial forms, the ingenious superstructure that Darwin has erected, upon the assumed developments from "primordial forms," becomes "as the baseless fabric of a vision, which vanishes and leaves not a wreck behind."

According to Beale, instead of there being primordial forms, or cells, or bodies, there is first a clear fluid, the "germinal matter"; next in order, little granules appear; these now coalesce; then growing larger, they become minute masses, showing molecular motion. Next, *little currents are seen*, under the microscope, moving *to and from the centre of each little mass*, and there is established centrifugal accretion, or accretion from centre to circumference. In this manner is formed the elementary bodies termed cells, which, in their aggregate accumulation, constitute the bodies of the animal and vegetable world. Beale has designated these little vital currents by a somewhat poetic yet appropriate and beautiful name; he terms them "*the first dawn of vitality.*"

Some pretend to see, in this teaching, an insidious form of materialism. They charge that it is an admission of the truth of the old dogma "spontaneous generation." There is no reason or justice, however, in these charges, for Beale distinctly states, that "germinal matter must spring from pre-existing germinal matter," and then be perpetuated by the agencies of vital nutrition. Life will not, he says, be manifested in an *inorganic* fluid; this grand phenomenon is only made apparent where the fluid, "the germinal matter," *is organic; where life already exists; where the laws of creation are already and fully in existence.* These discoveries are the death-blow to that monstrous myth "spontaneous generation," with all of the hideous teachings which have sprung from the atheistical mind of the monomaniacal materialist.

In more recent periods these old and insidious views of materialists have been revived, and animal and vegetable forms, it is now claimed, spring from what is attractively and ingeniously termed "protoplasm;" the first plastic or original genetic force. Inasmuch, however, as all protoplasm is confessedly composed of cells, what is true of cells is manifestly and logically true of this mythical and wonderful substance. Most of what has been written in regard to protoplasm is so manifestly untenable, and has been so often refuted, that it would be unreasonable to devote time or space to a repetition of it. The only plausible statement which has attracted much attention, in this connection, in comparatively recent years, is that in relation to (what is known as) "Pasteur's Solution."

Mr. Pasteur claimed seven or eight years since that he could induce living organizations in non-living matter; in other words, he claimed that it was possible for living beings to be brought into existence independently of living parentage; that organized forms could be called into being independently of creation, or of the well-established law, that organic bodies can spring only from like structures previously existing. If Pasteur is correct, the narrative of creation is a fable, and creation is unnecessary, so far as it refers to living matter; for from dead material, he claims that life may be evoked. His celebrated solution is made of water, tartrate of ammonia, sugar and yeast. If this solution be filtered and boiled, and then set aside, it becomes in two or three days milky in color, this opal-like hue being due to the appearance of myriads of bacteria, microscopic living organisms. This unquestioned fact seemed at first startling, for it was a demonstration apparently of the practicability of the materialist's claim, that from dead matter life could be called into existence. It was soon, however, demonstrated that if the vessel containing this solution be corked while steam issued from it, that the solution would keep for an indefinite time without any disturbance of its transparency.

Life did not make its appearance in Pasteur's solution when thus treated. In other words, if the germs of bacteria floating

in the atmosphere be prevented from entering the bottle containing Pasteur's solution, this solution, like all solutions in which organic life is destroyed by boiling, could be retained indefinitely, without manifesting the presence of organized beings. To state the absurdity in regard to Pasteur's solution more briefly, it should be said, that if the germs of microscopic beings known to exist in most atmospheres be admitted into a vessel partially filled with any solution of vegetable elements, that such germs, lodging in this nest, germinate and multiply; but that if such germs (already instinct with life obtained from a living source) be denied such admission, the solution is absolutely unchanged. Still more briefly; living germs are not developed by Pasteur's solution, but simply germinate in it, as they do in any accessible or appropriate nest As manifest as this fact is, as palpably absurd as is this whole modern claim, Prof. Huxley says that he cannot explain it; it is mysterious and wonderful!

The strangest of all his utterances is the following:

"Under whatever disguise it takes refuge, whether fungus or oak, or worm or man, the living protoplasm not only ultimately dies, and is resolved into its mineral and lifeless constituents, but is always dying, and, strange as the paradox may sound, could not live unless it died!"

Dr. Bigelow says:

"What can be inferred from this argument but that dead protoplasm was created before the living, and that in relation to cause and effect, dead protoplasm is the first cause or the God of the universe!"

If, according to Huxley, living protoplasm could not "live unless it died," the natural question to ask is, how did the original protoplasm live? There could have been no antecedent death.

Any fair reasoner can only feel pity for a great man, when he is wedded to a doctrine so absurd that children can see, (sooner than he) its palpable folly and utter untenability. The germination of atmospheric germs is so familiar a phenomenon that it is explained often in primary schools.

Dr. Bigelow has illustrated kindred phenomena interestingly. He has shown that the common plantain, unknown to the aboriginees of America, appears wherever the white man penetrates; the Indians term it, figuratively, on this account, "the white man's foot." Its viscidly-coated seed adhere to clothing, and transported by civilized man, accompanies him throughout his wanderings. Birds carry seed everywhere. How strange, that when the atmosphere wafts the microscopic germs of the microscopic bacteria, and deposits these in a solution made by an individual termed Pasteur, that they should germinate! It is very strange! How much more strange is it, however, that when this simple and ordinary phenomenon occurs, that wise men should be confounded, while those of ordinary understanding comprehend it fully; refusing to admit that in a poor yeast solution resides an omnipotence belonging alone to the mighty Jehovah!

Suppose, however, that this mighty solution had generated these microscopic beings, is it not ludicrous that these grand and mystic creative forces, resident in this solution, should be contented with so poverty-stricken a manifestation of life as is to be found in the playful sportings of these mercurial bacteria; that the powers of an omnipotence should originate and terminate in an animated atom!

When the enthusiastic representatives of this modern school of "development" found that, with all possible care, and watching, and tending, these obdurate bacteria remained bacteria still; that they could not or would not add a single link to the grand chain of organic existence; that they would not indulge in "development," but clung obstinately and obdurately to their contemptible existence, is it not strange that the fervor and enthusiasm of these scientists (?) did not abate; that their intoxication did not terminate and the reason belonging to sobriety reässert its sway? Strange as it may appear, it did not; they clung and still cling to their infatuation, and while all others grasp with facility the fact of microscopic germs manifesting vitality when deposited in a proper nest, these representatives

of "development" cry how wonderful; endowing a poor yeast solution with the functions of omnipotence, and assigning to its microscopic animalculæ the superlatively ridiculous position of being the ancestors of man. Though forced to acknowledge that bacteria do not now "develop," they contend that in the earlier ages of the world this was not so; that the forces calling them into being were not then exhausted in the formation of these microcosms, but that the microscopic organisms then originated formed the primal link of that sublime chain, which commencing with bacteria ended in man. The inconceivable wonder is, that this mythic chain should now manacle many mental giants, when its every link is so fragile, so utterly powerless, and so absolutely contemptible!

As these enthusiastic advocates of development ask their friends to go with them to the geological strata, for observing the proof of the truth of their claims, it is well to do so. The most humble and simple little beings which they claim had a spontaneous origin, are the bacteria and kindred organisms, and these, by the records of development-advocates, sprang from mystic forces supposed to be resident in formations of vegetable matter. The ancestry of man are, therefore, at last traced back to their earliest primæval home, a solution of vegetable matter; this fact being interestingly explanatory of the origin of the sect of vegetarians whose tastes and tenets have never been hitherto satisfactorily explained. How does geology substantiate this claim as to the vegetative origin of microscopic organizations? The radiata, articulata, and mollusca, are the earliest manifestations (according to the great Cuvier) of the animal kingdom known to geology; these were of course (!) "developed" from microscopic animalculæ, the bacteria, or other kindred organizations; and these microscopic creatures sprang from solutions or combinations having vegetable elements for their basis. Now, vegetable matter has never been found in any geological stratum prior to that of "the old red sandstone," while the radiate-shaped and jointed animals, the corals, and the shell-fish ("developed," say the advocates of de-

velopment, from microscopic animalculæ,) are found in the clay slate and gray slate strata, and throughout the whole Silurian system; strata deposited thousands of years before the old red sandstone was formed. In other words, the animal organizations claimed to be "developed" from microscopic animalculæ, are found in strata thousands of years older than the strata in which these animalculæ could have been generated. Vegetable manifestations are first found in geological strata many thousands of years more recent than the strata containing corals, shell-fish, and the radiate class of animals. Geology, therefore, not only exposes the absurdity of animalculæ springing from vegetable elements, and such animalculæ becoming in turn the source from which animal life is "developed," but it shows equally well the greater absurdity of all who claim animal existence, in any of its forms, to have originated or been "developed" (however remotely) from vegetable organizations. The nonsensical doctrines of spontaneous generation may well be said, therefore, to be dead; as dead even as Joyce Heth, the nurse of Washington; the claims of Phineas Barnum to the contrary notwithstanding.

While many of the advocates of "development" are forced to admit this truth, some of them still cling to their old love; even as the sprightly and intelligent barnacle clings to the old ship which has been condemned and forever abandoned.

There are besides these among the advocates of "development," a more recent body who, led by Mr. Darwin, urge their "development" claims in a new, and, it seems, very attractive manner. These admit the folly of "spontaneous generation," but claim that a few "primordial forms" only were created, and that from these sprang a line of organized beings terminating in man.

It is logically certain, that these primordial forms were not vegetative in character, becoming afterwards developed into lower forms of animal organization; for thousands and thousands of years before the appearance of vegetation upon the earth, the lower forms of animal organization existed. The

evidences of vegetation were first seen in the geological strata of the Silurian and Devonian systems, while corals, shell-fish, molluscs, the articulates, and radiates, are found in the gneiss and mica deposits thousands of years older. Even, however, if geology be untrue here, it is well known that all vegetable organizations are composed of double-wall cells, and all animal organizations of single-wall cells; and that the most persistent efforts to transform or "develop" organizations with the double-wall cells (the vegetable cell) into organizations with single-wall cells (the animal cell) have uniformly failed. Organizations with the double-cell wall (vegetable) supplied for nourishment with inorganic material, thrive and grow, while they die if supplied with organic matter before its resolution into the ultimate elements of which it is composed. Conversely give to any single-wall cell (animal) organism inorganic food, and it perishes, while, if organic matter be afforded, it quickly assimilates such food, and demonstrates the animal character of its organization. Here then is a broad, impassable gulf, separating the animal and vegetable kingdoms of organized nature; showing that by no possibility could any "primordial forms" have crossed it successfully. For, if with the vigilant protection and ingenuity of man they cannot be piloted successfully across this gulf, how hopeless and impossible must have been the transit without such intelligent guidance and powerful assistance. It will be seen then that geology, the teachings of the microscope, and the most ingenious experiments performed in connection with varied modes of nutrition (a crucial test), all demonstrate the impossibility of vegetable primordial forms being "developed" into even the lowest forms of animal organisms. The primordial forms, so much studied in recent years, must have been animal in character, if primordial forms have anything whatever to do with the creation of the magnificent panorama of human and animal nature. If then these primordial forms were animal in character, what was the nature of the animal? The earth's strata show that the radiates, molluscs, and articulates, were the earliest animal organisms formed.

Were these, or any of these, man's progenitors and honorable ancestors? Did they develop into anything else, or have they ever, in their fossil or modern history, manifested any signs or evidences of development? If so, is there any record of further development? Has any one ever been able to show, by fossil or recent remains, or by living bodies, any evidences of any animal organization having been developed into a higher organization?

Geology is often interrogated, but what is the true answer which it makes? The fossil remains exposed often show that, since the period of their deposit, the species thus embedded has retrograded, and not "developed." Sedgwick says, that "all our ancient fishes belong to a high organic type, and the very oldest species that are well determined, fall naturally into the order of fishes which Owen and Miller place not at the bottom, but at the top of the whole class."

This is certainly not "development." Hugh Miller says: "In the imposing programme of creation, it was arranged, as a general rule, that in *each* of the grand divisions of the procession, the magnates should walk first." In speaking again of the lower orders of organisms, he says: "We recognize yet further the fact of degradation specially exemplified in the fish and reptile."

This is not the story of "development," now so popular and so often foolishly received. The cephalopods, the most perfect of the molluscs, which lived in the early period of the world, show, says D'Orbiguy, "a progress of degradation in their generic forms."

Agassiz teaches that fossil animals had, very frequently, a combination of powers found now only in separate classes. Owen says, "the reptiles manifested the highest grade of structure chiefly in past periods." But why multiply quotations and authorities? Geology, if it is to be accepted as an authority in regard to "development," shows in modern organisms degradation of structure frequently; and often in fossil beings superiority of function.

If earth's oldest and most modern testimony shows the utter untenability and folly of this theory of development, what more can the earnest student ask or desire? Geology and the Mosaic Record teach alike, and always, the grand story of creation, and not of development. The story of "development," when brought into their august court, is speedily exposed and subverted; the witnesses are all helplessly impeached, and the advocates are driven to silly sophistries in summing up their starveling cases before an unconvinced and unconvincible jury. Ancient history shows no single instance of physical unaided development, and modern history shows that, apart from the agency of man, development is unknown and impossible. If man, then, be the chief cause or agent of all development known, how illogical and senseless to claim him as its result. So far from "development" being creative of man, all logical testimony shows that, on the contrary, man has been creative of development. "Development," then, has had all of its witnesses against the Mosaic Record impeached, and they have been dismissed as worthless and discredited. Development stands, now, in human courts, without witnesses; helpless and unsupported.

Last of all, what is to be said in regard to the testimony which has been offered by the last witness in this long trial; the witness known as "Selection."

Selection, or natural selection, it will be remembered, is the term used by many modern scientists to express that inherent force by which representatives, both of the animal and vegetable kingdoms, have been enabled not only to perpetuate their species, but absolutely to raise these in the scale of being. Is there any truth in this doctrine propounded by Mr. Darwin and his followers, who imagine that, by reflecting his views, they also will be accorded, perhaps, a reputation for the talent admitted to be his. Have Mr. Darwin and his fatuous worshipers so presented and elaborated their doctrine as to entitle it to respect? Is there any evidence that has been presented of there having been, as Mr. Darwin claims, "four or five progenitors"

for the animal kingdom, and as many for the vegetable kingdom? One would suppose, as he has been compelled to admit that four progenitors for each of these kingdoms were created, that he would, with the confession of the great fact of creation, have there rested, and admitted the creation of all matter; that he would have accepted creation as the true and only explanation of the existence of the animal and vegetable worlds; but he has not done so, and admitting the grand power of Omniscience in the formation of his eight progenitors (four for the animal and four for the vegetable kingdoms) he claims a termination there of the sublime labors of the Great Architect, and believes that, for His immeasurable power, he has successfully discovered an analogue or substitute in some inherent force resident in each of the organized forms ("the primordial forms") originally created. The chief basis of Mr. Darwin for his claim is, that there must have been "over-production" in nature, and that as the stronger forms must destroy in this event the weaker, the stronger will again propagate and produce a higher organization, selecting in such propagation those organisms which will be most conducive to securing offspring of a still stronger and higher nature.

Geology, if Owen and Miller, and Sedgwick and D'Orbigny, and others, are to be believed, shows vast numbers of species which, in their fossil forms, differ in no respect from the same living species now. More than this, they testify that geology demonstrates the frequent degradation of species. Past history, as found recorded in those sublime leaves, earth's faithful strata, does not in any respect sustain Mr. Darwin in his claim. More than this, such history proves the incorrectness of his claims. It proves that the stronger do not overpower the weaker and then propagating by "selection," elevate the species in the order of being. Geology shows, in its vast mausoleums, that those giants which, in both the animal and vegetable kingdoms, were the largest and most powerful of all then living organizations, succumbed, when the smaller and weaker powers were for ages perpetuated. What has become of the megatherium; the

mastodon; the mammoth; the icthyosaurus; the gigantic saurians? What has become of those immense representatives of the vegetable and animal kingdoms which, even in their fossil state, excite wonder and surprise? They have all passed away, while insignificant reptiles of innumerable species have been perpetuated. Details here are impossible. They could be brought forward in almost endless elaboration, but this is impracticable. Volumes, however, written in this connection would teach, could teach indeed, only the same lesson to be derived from these few examples. These examples teach that the strong have often perished, while the weak have oftener been perpetuated. More than this, the most superficial student learns that the lowest and weakest organizations, the cold-blooded animals, live longer, and endure more, than do the warm-blooded animals, those of higher and stronger natures; which animals, according to Darwin's scheme, should have overcome the weaker and perpetuated themselves. The lowest and weakest natures in the animal kingdom are often infinite almost in endurance, and live long where stronger natures die. These facts, and others of a kindred nature, are too innumerable and too familiar to warrant a detailed exposition of them.

If the student comes from past history to the present, he finds his objections to Mr. Darwin's views stronger, and the proofs of their untenability innumerable. No species in the animal or vegetable kingdom manifests, in the observation of man, any of the power of "selection" which Mr. Darwin claims. The evidence here is infinite in abundance, and all teaches exactly the contrary. Flowers, fruits, vegetables, man's staples, animals of all kinds, birds, fish, etc., have their natures improved only so long as they are fostered and tended by man. So soon as he abandons them and leaves them to that celebrated inherent force, termed by Mr. Darwin "natural selection," they deteriorate in all respects, and show an utter inability even to retain the developed forces which, through man's aid, they had attained. These facts are so palpable, undeniable, and innumerable, that it seems incredible to believe that

with them any one of respectable intelligence could advocate Mr. Darwin's marvelous doctrines, or fail to ridicule and repudiate them. As to his favorite view of birds having improved in size and appearance and nature, because the female bird selects for her mate one of brightest plumage, the bright plumage being an index of strength, etc., etc., it is impossible to understand how any one advocating such silly and nonsensical doctrines escapes universal ridicule, and his volumes universal repudiation. In several species, the birds of the same nest always mate, and however repulsive or unfortunate the male may be in his appearance, he is still accepted as the mate. The most casual observation, however, teaches the folly of this chimera of Mr. Darwin. Why the most intelligent of all females, the human female, shows that this idea of Mr. Darwin cannot safely be tested. She may select, as she often does, for a mate, one whose plumage is gorgeous, and whose cackle is loud and vigorous; but as the domestic hen finds that the bright-feathered "dung-hill" cock often endows her with recreant chicks, while the sombre-feathered game gives her offspring stanch and vigorous, so the poor misled woman usually finds her gorgeous, cackling companion a cause of sorrow and disappointment, when an unpretending and quiet mate oftenest secures for her happiness, joy, and protection.

History, past or present, observation, the testimony from all living organisms, animal or vegetable, all show the utter untenability of Mr. Darwin's arguments in regard to "natural selection." Lastly; Mr. Darwin's idea regarded as most impregnable is, that there must be over-production, and in the struggle for existence, the stronger must overcome the weaker and propagate, and thus rise in the scale of being, from the lowest form of organization even up to man. This is his basic, fundamental, chief idea. His whole fabric is built upon it. The reply is simple, indeed, and if correct, destroys this fairy castle at a blow. It is true that the struggle for existence, with conquering on the part of the stronger, might possibly occur now, but Mr. Darwin claims that "animals have descended from only

four progenitors," (page 240). Can any one conceive how these, with their offspring, over-crowded the universe and necessitated the struggle which gave victory to the fortunate victors, who, by "selection" and "development" became ultimately the progenitors of man? If there be not, even now, after thousands of years have elapsed since the creation of those "four progenitors," none of that "over-production," necessitating constant struggle, with the annihilation of the weak and the victory of the strong, is it possible that such a condition could have existed in the early dawn of creation, when species was limited, and space unlimited? Who can discern this struggle for life, even at the present time, in a single species? Past and present history, with daily observation, utterly exposes the fallacy of the cardinal basis, upon which is founded the whole fabric of Mr. Darwin's creation, and the foundation subverted, the superstructure totters to the ground.

Surely, no one who will examine for himself, and reason fairly, can fail then to claim "Medical and General Science as Repudiators of the Modern Doctrines of Development and Selection;" while he must admit that they are most logically and conclusively "Vindicators of the Truth of the Mosaic Record."

Such is a part at least of the testimony which medical science is enabled to furnish in support of the Mosaic Record of creation. It is a remarkable and historic fact, that as often as the truth of this record has been repudiated by infidels and skeptics, as often as the Christian pulpit has been required to defend itself against such insidious and powerful invaders, it has been the science of medicine which, through its representatives, has come to the rescue, converting fearful defeat into a triumphant and acknowledged victory. While statesmen and philosophers, poets and the representatives of the varied departments of scientific and secular literature have, at such times, either taken part with the skeptic invaders, or been conveniently silent, when the very doors of the citadel of inspired truth have been perilously battered down, by a powerful and overwhelming army, it has been the privilege, the pleasure, and the power

of medicine to first erect impregnable barriers of defence, and finally to drive the enemy back, in hopeless confusion.

One has only to read the works of the greatest philosophers and poets; to examine the speeches and papers of the greatest statesmen and orators; to analyze the most powerful arguments of the masters in secular literature, to appreciate and acknowledge this historic fact. For this constant aid and earnest defence extended by physicians to the Christian pulpit; for these historic rescues of the truth which this pulpit essays to teach, what has been the return made to the representatives of medicine by those who term themselves a Christian ministry? There is scarcely a clergyman who has not made the representatives of medicine the theme for pulpit detraction, ridicule, and satire; and this has been always done, when physicians have visited Christian churches to take part in holy services, and been powerless to reply to the inhospitable and petty inuendoes of those who claim to teach Christian truth; who have appealed to physicians, when this truth was invaded, to guard and defend it! There has never been a charlatanism so vile, despicable, dishonest, and villainous, but that its representatives, ignorant and besotted, have found the ministers of the Christian pulpit to be their self-constituted, enthusiastic, and bigoted defenders. The clergy claiming to be scientific, and ridiculing all who, uneducated and untrained, claim to be theologians, are yet stupid enough to endorse and defend the most ignorant and besotted representatives of every form of quackery. The vilest compounds sold by dishonest and ignorant compounders have never been so vile, as not to secure the foolish endorsement and unenlightened support of the Christian ministry. Every form of medical apostacy, if not hatched in the Christian pulpit, has at least found that Christian ministers have always been its enthusiastic propagators and ignorant defenders. It is time for medical men to expose, and, if necessary, publicly condemn such ingratitude; to hold up to just ridicule those who, profoundly ignorant of medicine, foolishly foster its besotted apostates; who undertake to condemn physicians that, unremuner-

ated, personally guard and scientifically defend them. There are noble exceptions among the clergy; men who justly enjoy and fully reciprocate the confidence, respect, and support of educated physicians. These are, however, notoriously and demonstrably an unfortunate minority. While Christian ministers ridicule and injure a science of which they are ludicrously ignorant; while they even when in their pulpits (preaching charity, kindness, and justice) unwisely and often insult physicians, educationally fully their equals; while they nurture the vilest quackery, and sustain its ignorant representatives (even as ignorant of medical science as themselves) they must expect to lose, to a fearful extent, the esteem and support of the Medical Profession.

These concluding paragraphs may not appertain to the subjects of this paper, but they are at least opportune and necessary.

NOTE.—Since the Spring of 1866, the writer has never trespassed upon this department of the Journal. He has given it up exclusively and gladly to others. On this single occasion, he has appropriated a material portion of it, but contributors will not again, soon, be called upon to surrender space, always preferably accorded to them.—ED.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—LONDON PRACTICE. By JAMES PERRIGO, A. M., M. D., M. R. C. S., England, Demonstrator of Anatomy, University of Bishop's College.

At the Samaritan Female Hospital I had the pleasure of seeing Mr. Spencer Wells operate for ovariotomy nine times. He advises the operation to be performed as early as possible, as then the tumor is less vascular, and consequently there is less likelihood of there being adhesions. He invariably brings the pedicle to the surface, and secures it there by the clamp. Mr.

Wells has now operated 400 times, and as he finished each hundred, he brought the results before the Medico-Chirurgical Society.

In the first hundred, 34 died; in the second, 28 died; in the third, 23 died; in the fourth, 22 died.

Of the last hundred, 44 were in the hospital, and 56 in private practice. He has hopes of reducing the mortality to ten per cent. He adds that the mortality in hospital and private practice is about the same. In his opinion, tappings do not considerably increase the mortality, and sometimes are of benefit in giving time for the health to improve, or in lessening shock by having fluid removed a few days before. I may state that when the pedicle is of sufficient length, the clamp is always preferred. Mr. Gant, who is senior surgeon to the Royal Free Hospital, thinks the probability of success is nearly doubled, where the length of pedicle permits this arrangement.

At the West London Hospital I saw Dr. Wiltshire amputate the vaginal part of the cervix uteri in two cases. The cervix in each case was enormously elongated, so much so, as to protrude to the vulva. They both did well. The instrument employed was the écraseur, but instead of being armed with the chain-saw, it had a single wire. It is much more easily used, makes a cleaner cut, and prevents bleeding as effectually.

At Moorfields Ophthalmic Hospital, a person can have every facility in studying eye cases. Every surgeon has, on an average 100 to 150 out-door patients to prescribe for, and there are four of them busy doing so, every morning from 9 to noon, after which there is always some operation to be performed. A stranger there is treated with all possible kindness, and every attention is shown to him in explaining things in the ophthalmoscopic room. This room is quite a large one, darkened and fitted up with nine stalls, each of which is furnished with a gas burner, two chairs, and a small table. Some days, during the out-door hours, there is hardly one of these unoccupied for a moment. There are many Canadians, who no doubt will remember with gratitude the great kindness there exhibited to-

wards them; even sometimes firm and lasting friendships are formed. It was so in my case, and in after life, I shall always look back upon my visit to London with pleasure. I was fortunate enough to be allowed to examine a case of opaque optic nerve fibres, a condition that is not to be seen every day. Tonics, rest and fomentations, formed the general run of treatment, Rheumatic ophthalmia is more common in England than here. It is treated chiefly with aconite and colchicum, along with the bi-carbonate of potash. Mercury is given largely in syphilitic iritis, just as long as any lymph is formed. Von Græfe's operation for cataract is the favorite method. About seventy-five per cent. of the cases do well.

In visiting any of the London hospitals, one is astonished with the neatness and regularity with which everything is done. All the hospitals have assistant physicians and surgeons to attend to the out-door work. The posts of house-physicians and house-surgeons have to be competed for by examination, and they are not held longer than six months. All the nurses are trained by the Sisters of St. John, and the hospitals that take nurses from this institution pay it so much a year. Charing Cross pays £500. In addition, there is a Sister to each ward, with a nurse under her, and over the whole hospital is a Sister who looks after the diet and wine cellar.

A great deal of treatment in the London hospitals is highly experimental. Calabar bean was tried for chorea at the Children's Hospital, Great Ormond Street. As might be expected, it produced no effect on the disease, but, strange to relate, it dilated the pupil. Bromide of potassium is now given for profuse menorrhagia, instead of other remedies. Since my return I have tried it successfully in one case. The galvano-cautery is now pretty generally employed, and I have seen it used for those little vascular tumors at the meatus-urinarius of the female. Carbolic acfd, as a dressing, is extensively used in some of the hospitals, but the cases are better chosen for its application than I have seen elsewhere. Holmes Coote will not allow any of it in his wards, and there are a few others who

will not use it. Craniotomy is now being gradually supplanted by cephalotripsy. In displacements of the uterus, Grailey Hewitt's ring pessaries are almost universally used, as they can be bent to any desired shape. Lallemand's porte-caustique is now improved by Sir Henry Thompson and Erichsen. Their instruments are so made that caustics in a fluid condition can be applied. There is very little difference between Sir Henry's and Erichsen's. Each consists of a catheter, the lower portion being perforated by minute holes. In it is a stilette, having at the bottom a sponge fitted on a spring attached to the stilette; the sponge is pressed upon, and the fluid is squeezed out.

Some of the professional men in London, after their appointment to a hospital, however small the institution, consider it their duty to write a book for the edification of their less fortunate brethren. The result of this is a vast amount of medical and surgical literature that falls still-born from the press.

The amount of money given to charitable institutions in Great Britain is almost incredible. Much of it is mis-applied. There is a multiplicity of servants at the hospitals. It takes two or three porters to do work that could be performed here by one, and other items are nearly in proportion. In some institutions, the Board meets once every quarter, and sits down to a sumptuous dinner, the expenses being defrayed out of the Infirmary's income. At one of these board "feeds," of which I was myself cognizant, the wine alone cost £27. There are many other things of a like character that remain unknown to the public. This was also the case with the Red Cross Society; a society that did much good, and yet was much cheated. Some of the London instrument-makers were enabled to sell a lot of old stock, useless for any practical purpose, to agents of the Society who had not the slightest idea what instruments were required. Comparing the Profession in Great Britain to that in Canada, I think we have nothing to be ashamed of. We have everything to encourage us, when we consider the differences of advantages; how wealthy their institutions are, and how poorly ours are endowed. They have one advantage over

us, their men are generally better educated before they enter upon their professional studies, and in proportion to the number of schools, there are fewer testing bodies.

There are also better supporters of professional periodicals, and, so far as I could judge, there seems to be a greater unanimity and esprit-de-corps, in trying to raise the standard of the Profession. The various "pathies" are let alone. Homœopathy, for instance, is never mentioned, and is not noticed at all.

Gratuitous advice at the different hospitals has been abused to such an extent that steps have been taken to have it remedied. Dr. Meadows and others relate cases where persons have dressed themselves in their servants' clothing, and have presented themselves for advice at the out-door departments. Well-to-do farmers come to London for the same purpose. I know of some farmers on the Island here, who do the same thing. Recently a society has been formed, called the Charity Organization. The committee rooms are in St. George's, Hanover Square. All suspected cases are referred to them for investigation. The University College Hospital has already referred a good many suspicious patients to the committee, and many glaring cases of imposition have been exposed. When it was discovered that these patients could well afford to pay for medical advice, they were referred to the general practitioners in the neighborhood of their abode. Some such arrangement might with propriety be instituted in Montreal.—*Can. Med. Jour.*

ART. II.—NEW REMEDIES IN THE TREATMENT OF UNUNITED FRACTURES. By A. W. CALHOUN, M. D.

Nothing can be more harassing to a surgeon than to find, after several months of continual treatment of a fractured limb, that union has failed to take place, and that upon each removal of the bandages, etc., the opposing ends of the bones remain

almost as movable as on the day of the fracture. Such cases, however, are by no means of seldom occurrence, and may be considered, so to speak, as one of the approbria of surgery, for frequently they stubbornly resist every effort at a cure, in spite of the many noted remedies recommended for their relief.

Amongst the many other surgical affections filling the various hospitals of this city during the last few winter months, this has occupied no unimportant position, and called forth no little attention and study on the part of some of the first surgeons in Berlin, and by means of phosphorus and iodine, their efforts have been encouragingly rewarded. The treatment has as yet been both internal and external, combining the two remedies, each of which is reputed to effect the same desirable end, even when used separately, but when conjoined, are thought to make assurances doubly sure.

Dr. Wegner, the chief assistant to Professor Virchow, has for several years past been experimenting upon various animals with phosphorus, with the view of determining its bone-producing capabilities, and rather recently communicated the results of his studies and experiments to the Profession, through the Berlin Medical Association. In a most interesting and learned article upon this same subject, read before the Prussian Surgical Congress, assembled here a few days ago, he treated the matter more fully, and brought before the Association a large number of anatomical and other preparations or specimens, displaying the effect of phosphorus in causing a quite closely-knitted and compact new growth of bone. In some instances, some portions of bone were laid bare of its periosteum, and the animals exposed to the fumes of phosphorus, for a certain length of time, on several occasions. Diffuse periostitis was set up, and after different intervals of from four to eight weeks, various-sized protuberances of osseous and ossifying substance, of more or less thick bony consistence, were found to occupy or fill the locality previously exposed. Some of the animals thus experimented upon had decayed and hollow teeth, through which the phosphorus fumes came in contact with the alveolar processes

of the jaws; and invariably, in these instances also, the same ossifying masses formed at the seat of contact as at the points uncovered by periosteum. Where the phosphorus was given internally, the normal epiphyses of the long bones, with the adjoining spongy portion of the canals, were converted into dense, hard bone. In fowls, the canals were entirely filled with new-formed solid mass, having been gradually narrowed by the concentric layers of osseous deposit, until finally the whole shaft became a firm, compact bone. Also, where limbs were fractured previous to the administration internally, the fractures were made to heal much more rapidly than when left alone with the ordinary treatment, with an abnormally dense ivory callus surrounding the united ends. The same effect resulted after resections, and after transplantations of periosteum.

In short, these experiments prove that the soft or spongy portions of bones can be made firm and solid, and that the original bone can be stimulated to a further deposit of somewhat similar substance, by infinitely small or homœopathic doses of the pure phosphorus, when continued for a sufficient time. These facts are of great practical importance, and the clinical and hospital surgeons in particular have not been slow in availing themselves of the many promising and valuable suggestions deduced from these experiments; and in accordance with the recommendations of Dr. Wegner, preparations of phosphorus are now being largely administered in resections and fractures, especially where the age of the individual, or any constitutional defect or derangement, is apt to retard or in any way interfere with the proper healing process. So far as can be judged, cures have been much hastened by this treatment.

But not until within a short time has phosphorus been prescribed with the view of bringing about the union of ununited fractures, upon which the ordinary modes of treatment and medicines have worked no good. As a rule, however, at the same time with the internal use of phosphorus in these affections, there has been locally applied, over the position of the fracture, the strong tincture of iodine, about which I may say

a few words before I report the history of one case, a type of several others managed in the same manner, and with equally good terminations.

As is known, the painting of tincture of iodine over any portion of the skin sets up subcutaneous irritation or inflammation, extending to greater or less depth into the parts. But as to how deep these changes extend, or the exact nature of them, no great number of opportunities of testing have been afforded. Still, the investigations and dissections made, comparatively recently, by Dr. Schede, of "Halle," show that the parts over and upon which the iodine had been penciled for some time, and at stated intervals, were acted upon in a very similar manner as when the actual cautery had been lightly or superficially applied; and in some instances, this inflammatory action passed almost entirely through the limb, seizing upon bone as well as soft part.

A knowledge of these facts has induced the use of iodine in procuring solid growth between the ends of fractured bones, which, from some cause, have remained ununited. Prof. Langenbeck reports, that in bones lying superficially—such as the clavicle, etc.—he has succeeded in healing fractures by the local use of iodine, where all other efforts and means had disappointed him. But, as in other diseases, and with all other remedies, there are many cases which refuse a cure from this treatment also; and hence the idea of conjoining the two articles, each, well reputed, and which, by their united effects, mostly work a favorable influence.

Early in the winter (1871), came H. S——, aged fifty-five, into the clinic of Prof. Langenbeck, having fallen, a day or two previous, and fractured the humerus at the junction of the upper and middle thirds. The fracture was of a simple nature, and after bringing the ends of the bones in apposition, the plaster of Paris bandage was applied over the entire limb and the corresponding half of the thorax. The patient was otherwise strong and healthy, and consequently needed no internal or constitutional treatment.

The case progressed apparently well, and at the expiration of six weeks, the bandage was removed; but the fracture was not only unhealed, but, with the exception of pain and crepitation in the parts, the limb presented the same appearances, and, in fact, was almost as far from cure as upon the day of the accident. From this time on, till the last of February, 1872, efforts were made to effect union through innumerable local and constitutional means, but without benefit.

February 29th, 1872, commenced the daily internal use of calcaria hypophosphorica, in six-grain doses morning and evening, and the local application of tincture of iodine, painting it every second day over and around the seat of the fracture.

The above, with a simple cloth bandage over the limb, constituted the treatment, which was persevered in till March 27th, at which time the fracture was firmly united—the two ends of the bone being, as it were, encased in a somewhat circular deposit or outgrowth of bone. The use of the iodine was ceased, but the preparation of phosphorus recommended to be continued for a few weeks longer, in doses of three grains twice daily, and the patient discharged as cured.

This is one of several cases treated in the same manner, and with similar results; but how much of the cure is due to the one remedy or the other, or whether the curative powers of one were more decided or predominant than the other, is of course difficult to determine, since both were used simultaneously. Separately, in the treatment of resections and fractures of the larger bones in man, neither has as yet, to any great extent, been tested; but the results of the experiments with phosphorus upon the lower animals, and the knowledge of the effect of iodine upon the human tissues, leads us to hope for much good from each in itself, and when combined, to expect, with a degree of certainty, satisfactory results.

At any rate, the before-mentioned experiments, with the assurance of happy results in the several similarly-managed cases observed by myself, may stimulate some one to a further inves-

tigation of the subject, which, it is reasonably to be hoped, may redound to the advancement of science and to the good of a common class of unfortunates.—*Atlanta Med. Journal.*

ART. III.—THE EFFECT OF MENSTRUAL DISORDERS UPON THE VASCULARITY AND NUTRITION OF THE INTRA-OCULAR STRUCTURES. By REUBEN A. VANCE, M. D., New York City.

The careful observation of the intra-ocular structures with the ophthalmoscope, continued at short intervals for a length of time, will in certain cases reveal phenomena of great interest, both in a physiological and pathological point of view. This is especially true when the patients are women and the observations extend over such epochs as pregnancy and lactation, or menstruation and the climacteric period. We have then an opportunity of watching the effect upon the cerebral circulation of those bodily states which are notoriously competent to induce changes in the mental tone of the individual, and which, in certain cases, cause a most distressing form of insanity.

The phenomena of menstruation may be attended by disordered vision, and it is possible that such visual disorders are due to the general commotion to which the female organization is subjected at this time, yet such cases are rare; and Dr. T. Clifford Allbutt, of Leeds, in his recent work, says that he has never been able to satisfy himself of their existence.* I have seen a number of cases in which photophobia and dimness of vision were complained of at the monthly periods, in which the ophthalmoscope did not reveal any disorder of the intra-ocular structures, and others again where hyperæmia of the disk and retina to a very marked degree, occurring at the same time, was unattended by any defect of vision.

In very many cases the menstrual epoch is attended by great

* Allbutt, On the Use of the Ophthalmoscope in Diseases of the Nervous System and of the Kidneys; and also in certain General Disorders. London: Macmillan & Co. 1871.

mental depression and occasionally by extreme bodily suffering. The mental vagaries, curious conceits, and unnatural ideas and desires then developed, are as diverse as the pains and aches which, at such times, are so commonly complained of by different patients. It will frequently happen that the peculiar tendency of the individual will then be developed, and an opportunity is thus afforded of learning more of the mental characteristics of a woman by a careful observation of her remarks and attention to her conduct during this period than at any other time. The details of a case which I presented in outline to the Medico-Legal Society of this city in December, 1871, and which was the subject of a memoir read before the Medical Journal and Library Association March 8th, 1872, illustrates this fact very clearly. A young woman who became the victim of morbid desires and vicious impulses at each menstrual period, but who was in perfect mental and physical health at all other times, gave no other evidence of cerebral disorder than such as was revealed by the ophthalmoscope. While such peculiarities of disposition and conduct as were exhibited by this patient are among the rarities of medical experience, it is to be borne in mind that the physical state which initiated them in this case is very commonly induced by that peculiar condition of the system which occurs in connection with the phenomena of menstruation.

The ophthalmoscopic appearances in the majority of cases in which symptoms referable to the cerebro-spinal system have been observed, are such as denote an increase in the quantity of blood in the intra-ocular structures. The retinal circulation is affected, but not to the same extent as that of the disk. The vessels of the latter are enlarged and their number increased. It may even assume a crimson appearance, and I have occasionally seen it so congested that the whole fundus-oculi appeared of a uniform color, and the site of the papillæ could only be discovered by tracing the retinal vessels to their point of convergence. The arteries of the retina may be but slightly affected—as a rule they are not enlarged to any great extent—but

the veins are increased in size and number, and their course becomes irregular and torturous. It is the proper vessels of the disk which undergo the greatest change, and the chief evidences of congestion will be observed at the intra-ocular termination of the optic nerve.

In a small proportion of cases, yet cases in which the cerebral symptoms are of the same nature and equally severe with those of the former class, the ophthalmoscopic appearances are directly the reverse of those just described. Instead of hyperæmia of the disk and retina, we find an anæmic state of the intra-ocular structures. The lateral vessels of the disk disappear; the retinal arteries and veins are much smaller than in health—the former sometimes diminishing to a mere line; many branches previously visible now disappear from view, and the disk presents a clear, bloodless aspect, through which the openings in the lamina-cribosa can be plainly seen.

The proportion of cases in which intra-ocular congestiion can be observed at the menstrual period is quite large, but the number of instances is small in which the ophthalmoscopic appearances of hyperæmia persist during the whole time the woman is unwell. In many cases where ladies suffering from menstrual irregularities have been under my care for disorders of the nervous system, it has been possible to pursue ophthalmoscopic observations for a length of time, and not only to see the intra-ocular appearances during the time they were menstruating, but also during the intervening period. Two well-defined classes can be distinguished: One in which the irregularities of the intra-ocular circulation lasted but a short time, and were apparent only at the commencement of menstruation; another, in which they came on a day or two before the flow manifested itself, persisted during its continuance, and lasted a variable time after it ceased. The first class suffered more or less pain at the time these appearances were noticeable, but presented no abnormal nervous symptoms; the other class complained of mental depression, obscure nervous phenomena, and pain in the back and thighs.

Cases characterized by anæmia of the intra-ocular structures pursue much the same course and present many of the symptoms observed in cases of congestion persisting throughout the menstrual period. An ophthalmoscopic examination alone can distinguish between them and determine in a given case whether the cerebral symptoms complained of are due to hyperæmia or anæmia of the brain.

There seems to be no conclusive relation between the amount of blood discharged and the state of the cerebral circulation. An excessive flow may coïncide with extreme degree of intracranial anæmia, while all the evidences of intra-ocular anæmia may be present in cases where the menstrual discharge is unusually small. The most satisfactory solution is found when we consider the connections and functions of the sympathetic nervous system. It is a well-known fact, that an irritation applied at one part of the sympathetic may manifest itself as an alteration of the structure or functional activity of organs but remotely connected with the nervous branches subjected to experiment. The phenomena most apparent, are changes in the vascular supply of the part upon which the irritation is reflected, and these changes are of the nature of anæmia and hyperæmia. It is not impossible that some modification of the molecular structure of the tissues is produced primarily, to which the hyperæmia or anæmia is secondary. Be that as it may, in a therapeutical point of view, it is of the utmost importance to determine which anatomical condition is present, for the treatment appropriate for the one is very detrimental to the other. This is especially so with respect to the brain, for cerebral symptoms almost precisely similar are produced by either hyperæmia or anæmia. The manner in which certain morbid conditions of the uterine organs produce modifications of the cerebral circulation is inexplicable upon any other hypothesis, while the clinical fact that such changes are produced, especially in certain menstrual derangements, is susceptible of menstrual demonstration by any one who will take the trouble to investigate the subject with the ophthalmoscope.

The mental symptoms due to the deranged nutrition of the brain so produced are manifold, and vary from the merest excitability of manner to the most furious mania; from slight depression of spirits to extreme melancholy, and in more than one case I have known the whole character of the individual so changed as to lead to the commission of the most vicious and disgusting acts. It is in this latter respect that these cases acquire importance in a medico-legal point of view, and no expert can form an opinion entitled to any weight who has not carefully examined the patient with the ophthalmoscope before, during, and after her menstrual epoch. In this manner, and in this manner alone can the physical condition of the intracranial organs, as regards these secondary vascular changes, be determined, and a basis of fact acquired upon which to found a rational opinion as to the resposibility of an accused person. *Boston Medical and Surgical Journal.*

A Novel Mode of Application of Hemp.—The Dublin Obstetrical Society, at one of its recent meetings, devoted the greater part of an evening to the discussion of the use of hemp ligature as a saw, for the removal of intra-uterine and vaginal tumors, and for decapitation in cases of transverse fœtal position in labor. Dr. McClintock spoke highly of this method in extirpating polypi, and reported a case.

A married lady came to him, reporting severe and repeated vaginal hæmorrhage. A large polypus was discovered in the vagina, its size that of a turkey's egg, and its neck an inch in diameter. The tumor was drawn well down towards the vulva, and a loop of fishing line, introduced through Gooch's double canula, was cast around the pedicle, and in thirty-five seconds, by a sawing movement, the section through the neck of the growth was completed. The operation was facile, expeditious, dry, painless. The ligature was used through the canula, with a view to protect the vagina from injury by friction.

Dr. Kidd exhibited the body of a fœtus decapitated in the process of delivery by the method under discussion. The child

was presenting transversely, and was dead. The cord was passed around the neck of the fœtus by means of a catheter, and the section was completed in a minute and a half. The whole operation of delivery was accomplished in twenty minutes. Dr. Kidd remarked, that if the practitioner had a cephalotribe beside him he need not fear the risk of the head remaining in the uterus.—*Dub. Med. Jour.*

Hypodermic Injection of Ergotin in Hœmorrhage.—In the "London Practitioner" of December, 1871, Dr. C. Currie Ritchie details a number of cases in which sudden arrest of hæmorrhage followed the hypodermic injection of ergotin. He found Langenbeck's formula the best in practice. The solvent used in this is equal parts of glycerine and rectified spirits. The dose used was from three to five grains of the ergotin. The following is a condensed account of one of his cases: Mrs. D., aged sixty, had, during the two preceding days, been constantly spitting blood, except during an intermission of six hours. Ergot had been given by the stomach without benefit. At the time of the injection (five grains) she was expectorating blood profusely. The only physical signs were a patch of dullness, about the size of the palm, over the left back, between the angle of the scapula and the spinal column, with slightly increased vocal resonance, and accentuation of the second sound of the heart. There was absolutely no hæmorrhage after the injection.

In the "British Medical Journal," June 3, 1871, Dr. William Allan Jamieson details a case in which repeated hæmorrhage from the lungs was at once arrested, each time of its occurrence, by the injection of five grains of ergotin, dissolved in ten minims of water, into the cellular tissue of the arm.—*Lond. Prac.*

Ergot in Chronic Diarrhœa.—In "Schmidt's Jahrbücher, of December, 1871, are detailed three cases of severe chronic diarrhœa, treated with ergot successfully after the failure of other remedies, originally published by Dr. A. Palmberg in the "Finska läkaresällskapets handlingar," 2, p. 75, 1871. Dr.

Palmberg has obtained the best results from the aqueous extract of ergot, and in anæmic cases combines it with iron, thus:

Take of watery extract of Ergot, 3 gramm. (46 grs.);
Lactate of Iron, 1.2 gramm. (18 grs.);
Sugar, 3 gramm. (46 grs).

Mix and divide into 10 powders. One every two or three hours, according as required.—*Ibid.*

Paralysis of Ocular Muscles Treated with Calabar Bean.—Mr. T. Wharton Jones reports, in the December number of the "Practitioner," two cases of paralysis of ocular muscles, successfully treated by dropping a solution of the extract of calabar bean into the eye.—*Ibid.*

Means of Preventing Scars in Variola.—Dr. Revillont ("Presse Med. Belge," September 25), says there exists a very certain method of preventing the scars of variola, only it is tedious, and therefore is often neglected. It consists in opening, one after the other, with a needle dipped in a weak solution of nitrate of silver, all the vesicles which we desire to make abortive.—*The Doctor.*

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

The Influence of Alcohol upon the Temperature of Healthy Persons.—In Virchow's "Archive für Patholog. Anatomie und Physiol., etc., September, 1871, is a paper by Prof. C. Binz with the above title; much of this we give below; for many valuable references to authorities, and for the remainder of the text, we must refer our readers to the original paper.

The old idea, that spirituous drinks increase the heat of the body, has in recent times received many experimental contradictions. Especially from our experimental institute have come

a number of publications, plainly showing that in the lower animals a temporary depression of temperature follows doses of alcohol not dangerous to life.

In regard to man the matter is not so settled. Partly the habitual use of the alcohol, partly the high demands made upon the patience and self-control of the person experimented on, make the experimentation on human beings a very difficult one. The clinical experiments of Todd and his followers make it very probable that alcohol has no heating power on the organism.

As a further experimental effort at settling the question, is the inaugural dissertation of my student.* The arrangement of his experiments was such as to eliminate, as far as possible, every source of mistake, and in their performance every care was taken.

Of thirty experiments, which lasted from three to four hours, Dr. Mainzer has made most on himself, only six upon another person. M. is twenty-six years old, of vigorous constitution, a weight of seventy-five kilogrammes, and one-eighth metre high, and is accustomed to the moderate habitual use of alcohol.

The experiments were made by M. in the daytime, lying, lightly-covered, in bed. The measurements were made in the rectum by means of a maximum thermometer constructed by Dr. Geisler. Every fifteen minutes it was read off.

The inquiry as to the normal temperature curve, for the time during which the experiment was made, preceded the individual experiments. The hours were from 7 to 10 in the morning, 3 to 7 in the afternoon, and 9 to 12 in the evening. The alcohol used was 90 per cent., mixed with two or three times its weight of water. The quantity was 15, 40, 50, 75, and 80 cubic centimetres.

The result was that the temperature of Mr. Mainzer was not perceptibly altered by doses of 15 to 80 c. cm. of 98 per cent. alcohol.

* M. Mainzer: Ueber die Wirkung des Alcohols auf die Temperatur des gesunden Menschen.

Bouvier has drawn the conclusion that alcohol depresses the temperature in fever cases only when given continuously and in large doses.

Whether this is useful or not is another question. That in this way the object aimed at is reached, is shown by the experiments of Manassein and Bouvier upon septicæmic rabbits, and also by the labors of Todd and his followers.

The person upon whom Mr. Mainzer experimented proved somewhat more susceptible to the action of the alcohol than he himself.

In all these observations there was shown a tendency to depression of temperature after the ingestion of the alcohol. In the first experiment it was not very noteworthy, but in the second and third (50 and 80 cm. having been taken respectively) it amounted to 0.4° C. and 0.3° C., at a time, too, when the temperature normally rises. No poisonous effects at all were produced by the alcohol. The second person experimented on, like Mr. M., was a stout, healthy man, accustomed to the moderate use of alcohol. Before this, Ringer and Rickards ("Lancet," August 25, 1866,) had shown that in such persons alcohol had but little influence on the temperature; and Neumann had noticed that in a rabbit, which had been frequently used for experiments with alcohol, the fall of temperature was produced with more difficulty.*—*New Rem.*

The Uses of the Uvula.—The first office of the uvula is, doubtless, to act as a sentinal to the glottis. It is probably also an accessory to the tongue in mastication, to which it acts with the rest of the velum as a valve, preventing the escape of particles of food into the pharynx until the chewing process is more or less complete; and, notably during the free flow of saliva soon after eating, it seems to act as a flood-gate to prevent its discharge from the mouth until a sufficient quantity has accumulated to necessitate an act of deglutition. This may be

* More recent and elaborate experiments show that alcohol does not diminish temperature.—Ed.

easily demonstrated by anybody who will take the trouble to look into his mouth (or rather into a mirror) shortly after partaking of a meal, when, as the saliva collects, the point of the uvula will be seen to be brought into instant apposition with the channel at the base of the tongue, forming a well of saliva, into which the uvula dips, mopping up the fluid, and flicking it against the pillars of the velum, tonsils, palate, etc.; hence it would seem to act as a lubricator, distributing moisture to the surrounding parts. It also acts in leading and clearing mucus, etc., from the vicinity of the glottis on to the tongue during hawking, coughing, and spitting.

In inflammatory sore throat, to which I have been somewhat of a martyr, my most distressing symptom, frequent painful attempts at deglutition, was due to an œdematous and pendulous uvula, giving (as I supposed) false signals to the epiglottis.—*Dr. Thos. Paton, Lancet.*

The Uses of the Uvula.—In your Journal, Dr. Garrett, about twelve months ago, laudably endeavored by careful investigation to arrive at the proper uses of the uvula. After having allowed sufficient time for discussion, the matter was closed without any very satisfactory result.

Now that the consideration of the question has been reöpened by Sir G. Duncan Gibb, Bart., and handled with evident care and ability, I venture, with all due deference to the views of others, to make the following remarks, which I have long held upon this apparently difficult subject.

In its quiescent state, the uvula is, I believe, acknowledged by most authorities to rest upon the base of the tongue; and it has often occurred to me that its use, when so placed, is to act as a conductor or guide to the liquid matters secreted within the posterior nares, and thereby to prevent the glottis from being taken by surprise by a sudden deluge, or constant and irregular leakage, from the posterior nasal surfaces. When the uvula is so resting on the base of the tongue, the velum palati hangs loose, and acts as a curtain of separation between the buccal cavity and pharynx. In this state of repose it acts as a

guide or drain to the secreted fluids, and in this way conducts them gradually to the base of the glottis, where, after an inconvenient accumulation, irritation is set up, and the result is either involuntary deglutition, or hawking forcibly, according to the degree of excitement produced.—*Dr. Robert Purves, Lancet.*

The Uses of the Uvula.—Dr. Noble Smith condemns, in the "British Medical Journal," the practice of snipping the uvula, and advocates its complete removal in cases where any operative procedure is called for. He relates two cases simulating consumption, which were at once cured by the removal of the elongated uvula; and says that, in mere snipping, the organ grows again, and no good results. On the other hand, Sir G. D. Gibb argues, in the "Lancet," that the uvula has important functions in deglutition and vocalization, and that its true muscular end does not often become elongated, but only the membrane, and perhaps adipose tissue; consequently, that snipping this part and leaving the muscular fibres intact is quite sufficient, and that no inconvenience arises from this practice.—*The Doctor.*

HAY FEVER.—Dr. W. A. Mitchell, of Glenville, Ala., asked through this Journal advice in regard to the treatment of hay fever. He received a number of letters, and has sent them to the Journal for notice. Dr. M. has tried the remedies suggested, and finds a little relief from two of them. One was suggested by Dr. W. R. King of Louisburg, N. C.; this is known as the "Williams' Asthma Remedy," and it is hoped that Dr. K. will give, for the benefit of his medical brethren, his experience in regard to it. The other source of relief was in using pulverized capsicum as snuff, as advised by Dr. E. L. Henry, of Vicksburg, Miss. Dr. E. S. Crosier, of Louisville, Ky., in his letter, recommended a sojourn "upon the top of the Alleghanies." Dr A. W. Fontaine, of Buckingham county, Va., recommends shower baths, friction applied to the head, neck, and shoulders, and the use of iron, quinine, and strychnia, as a tonic; for local treatment, the inhalation of aqua ammoniæ vapor, or inhaling a mixture composed as follows: Recipe—Morph. Acet., grs. iv.; Acid. Acet., gtts. iv.; Aq. Lauro-cerasi, drs. iij. Dr. C. H. Ladd, of Winnsboro', S. C., uses with great advantage Fowler's solution of arsenic in five-drop doses three times a day, and applies to the nares an ointment: Tannin, scr. ij.; Adipis, oz. i. Dr. Mitchell's graphic letter has elicited for him much sympathy, and suggestions from various physicians of character and ability. Who can withhold his advice in this connection?—ED.

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—A CASE OF SIMPLE FRACTURE OF THE TIBIA IN ITS MIDDLE, FOLLOWED BY EXTENSIVE NECROSIS OF THE BONE. By GEORGE W. NORRIS, M. D., Clinical Surgical Recorder in the University Hospital, Baltimore, Md.; Surgeon J. J. Chisolm in Charge.

John Hawkins, aged forty-eight, a laborer, residing at Port Tobacco, Md., a very stout, healthy man, was admitted to the hospital March 13, 1872, for surgical treatment. He states that, on felling a tree in September, 1871, the end of the tree lodged on the stump; he, not thinking of danger, went to work alongside of the tree, trimming off limbs which projected out and held the tree in position. As soon as he cut off the limb that kept it lodging on the stump, it suddenly rolled from its position and caught him before he could make his escape. He fell with his left leg crossed under the tree. He lay there fifteen minutes, when he was taken out, complaining of severe pain in his left leg, which he soon discovered to be useless; upon examination, his fellow thought it was a fracture, and had him conveyed home, a distance of fifteen miles, where a physician was called. He poulticed the limb for some time, but to no effect. In one month after the fracture, a large spicula of bone was seen protruding through the skin. When he came into the hospital, March 13th, on making an examination, a compound fracture (comminuted) of the middle third of the tibia was diagnosed. Upon a more thorough examination, there was discovered some small pieces of dead bone around the fracture. As no possible good could come of leaving the fracture in its present condition, the spiculæ of bone were removed by free incision six inches in length, after which the wound was stuffed with oakum. In a few days it took on great suppurative action. As the supervention of pyæmia was apprehended (being attacked with a severe chill twice daily for two days), he was ordered large doses of quinine and muriat tinct. ferri.

The wound was poulticed freely about two weeks after the operation. Two sinuses were found leading down to dead bone. Oakum was stuffed in freely in order to enlarge the sinuses. After a few weeks' poulticing, with internal treatment of whiskey, quinine, and iron, so as to improve his general condition, it was deemed proper to perform another operation, and remove all necrosed bone.

May 6th.—Professor J. J. Chisolm, now in charge of the hospital, operated by enlarging the wound, and removed by the chisel all necrosed bone, although nature had not yet isolated them from contiguous tissue. Common water dressing was applied with the usual internal treatment. He left the hospital well June 1st, the cure having been much expedited by the instrumental isolation of the dead bone.

ART. II.—A CASE OF FRACTURE OF THE HUMERUS IN A MECHANIC, CAUSED BY VIOLENT MUSCULAR CONTRACTION. By GEO. W. NORRIS, M. D., Clinical Surgical Recorder in the University Hospital, Baltimore, Md.

Joseph Gill, aged thirty-two years, a stout, healthy mechanic, brick-layer by trade, entered the hospital June 29, 1872, to be treated for a simple fracture of the middle third of the humerus, which he alleged was caused by throwing a brickbat.

On account of the extreme rarity of such an accident from so trivial a cause, Professor Chisolm was at first inclined to doubt the possibility of a fracture. On examination, however, he at once discovered the fracture in the middle third of the humerus. There was considerable extravasation of blood in the superficial cellular tissue of the surrounding soft parts, which he attributed to rupture of some of the small blood vessels. There being no lateral displacement of the ends of bone, the forearm was placed at right angles to the humerus, and a starched bandage applied from the shoulder to the hand, which, with the addition of a sling, completed the retaining apparatus.

The novelty (the fracture being caused by muscular contraction) makes the case an extremely interesting one, as there is not a case on record, to my knowledge, where the humerus had been fractured by the action of the muscles.

NOTE.—A case of fracture of the clavicle, caused by throwing an ear of corn, was recently presented to the class (in the Louisville Medical College) by Professor Holloway.—ED.

ART. III.—A CASE OF POPLITEAL ANEURISM. Reported by GEO. W. NORRIS, M. D., Surgical Recorder in the University Hospital, Baltimore, Md.

Joshua Fisher, aged forty-six, a tall, slim, rather delicate-looking mechanic, residing at Lisbon, Howard county, Md., was admitted to the Baltimore Hospital for surgical treatment April 5th, 1872. He gave the following history of his case: Twenty years since a small tumor, not much larger than a pea, was accidentally discovered lying under the skin behind the left knee. The tumor was hard, colorless, painless, free, movable under the skin, and as it caused no inconvenience, its presence was soon forgotten.

Gradually, year by year, it enlarged, and during the twenty years growing, had filled up the hollow between the knee without ever having given discomfort or in any way interfering with the daily work of a mechanic. Six weeks since he received a severe blow on the front of the knee in having a board violently pushed against it. Severe pain and swelling at once ensued, accompanied by redness of skin and a deadened feeling in the limb and foot. The physician who was called in to attend the case, thinking that suppuration would set in, had a poultice applied for several days, and finally, suspecting the presence of pus, had plunged in a bistoury to the depth of one and a half inches. Nothing but a little blood came from the puncture. As the painfully-inflamed condition showed no disposition to subside, it was feared that the tumor was undergo-

ing malignant degeneration (the mother of the patient having died of cancer); the patient was therefore brought to the city for surgical treatment. He was accompanied by his family physician, who had him under charge. Upon careful examination, a large, hard, movable swelling, the size of a fist, was found filling up the popliteal space. From the flattened condition of the swelling, it was evidently sub-fascial, having the hamstring muscles stretched over its lateral surface. When the leg was placed upon the thigh, the tumor could be readily grasped, and could be drawn away from the femur, showing thereby no periosteal connection. When thus grasped, no pulsation could be felt, which indicated that the tumor was not exceedingly vascular, nor was it adherent to the popliteal artery. It had never, at any time in its history, exhibited any pulsation whatever, and although now painful, did not throb. The greatest annoyance, at present experienced, was from the size of the growth filling up all the available space of the popliteal region, and so compressing the tibial nerve as to cause painful weakness of foot and leg. There was no swelling of the leg beyond the circumscribed swelling behind the knee. The limb was of the same size and as pale as was the other leg. The diagnosis of the tumor, drawn from a careful examination of the case in connection with the history, was that of an enlarged lymphatic gland, which, after twenty years slow and steady growth, had appropriated to itself all the popliteal space, and which, from recent injury, had taken on inflammation with probably degenerative tendency. The death of the mother from cancer made the prognosis unfavorable; but notwithstanding this, the patient desired relief.

Upon consultation, it was determined to remove the growth. The patient looked thin, as if in delicate health, and also had prolongation of the first sound of the heart with feeble pulse. A large dose of whiskey was therefore given before chloroform was administered. An incision of five inches in length was made over the centre of the space through the skin and fascia, and when the surface of the tumor was exposed, the finger was

freely used to isolate it from its contiguous structures. There was no difficulty in feeling the sides of the tumor, so that the finger could pass readily around and behind its upper half, leaving, however, a heavy resisting pedicle as large as the thumb, which passed up the thigh from the upper end. A double pedicle was found to pass out of the tumor from its lower end also; and, upon careful inspection, they were shown to be the sciatic nerve above, with its anterior and posterior tibial nerve below, the whole nerve-trunk being lost in the substance of the tumor, giving more or less a pessiform shape to the mass. When these very important and intricate relations of tumor and nerve were discovered, further procedure for the removal of the tumor was abandoned, as the cutting of the pedicle would entail permanent paralysis of the leg and foot. Attention, however, was turned to the character of the tumor. The finger, when placed behind the tumor where it had been isolated from the deep structures near the bone, came in contact with the popliteal artery, and pressure upon it here controlled perfectly the circulation in the foot. An incision was made into the surface of the tumor, when, to our surprise, was found an investing wall, easily detached from the solid laminating contents forming the tumor. Some of the contents were taken away, layer by layer, enough to prove the existence of a consolidated aneurism, the sac being filled with the usual hardened laminated deposit. After the discovery was made, the wound was closed up with the tumor remaining in situ, as it was not deemed expedient to make any further exploration. Treatment—carbolic lotion was applied to the wound; it healed up in a short time, and he left the hospital May 3, 1872.

ART. IV.—A CASE OF FALL UPON THE HEAD FOLLOWED BY COMPRESSION OF THE BRAIN. By GEO. W. NORRIS, M. D., Clinical Recorder in the University of Hospital, Baltimore, Md.

Michael Brady, a sailor, aged twenty-two years, a robust

Irishman, was brought to the hospital on April 20th, 1872, in an insensible condition. The report of his comrades was, that he had fallen from the upper deck to the bottom of the hole of the vessel. When picked up he was in an insensible condition, and consequently could give no account of himself. There was a flesh wound on the left eyebrow, with a large ecchymosis above the orbit on the same side. There had been hæmorrhage from the nose and both ears. His pulse was frequent and small; respiration slow and easy; pupils slightly contracted. Upon a careful examination by Prof. J. J. Chisolm, no fracture of any of the extremities could be discovered. The parts over the orbit were very much swollen and tense with effused blood, so much so that when Professor Chisolm's attention was called to the case, it was impossible on this account to diagnose a fracture of the skull. The patient lay in a comatose condition for five days, with all the symptoms of brain compression. The symptoms were thought to be caused by rupture of some of the small blood vessels within the skull, producing an internal blood-clot, which nature must slowly remove by absorption, as it was beyond instrumental removal. Cold water was applied to the head, with sinapisms to the extremities.

April 3d, bowels constipated; croton oil, gtts. vii, was ordered, with olive oil, ℥i., every four hours until it acted upon the bowels. His pulse ranged as follows from April 23d:

April 24th, pulse 45; respiration 16; has showed no signs of consciousness yet.

April 25th, pulse 60, full and strong. Takes liquid food very well, which is given freely.

April 26th, pulse 45; respiration 15; has had incontinence of urine since April 22d.

April 27th, pulse 48; respiration 18. He continued in this condition without change until May 1st. Evidence of returning reason when interrogated, and answers questions, but would appear somewhat delirious when alone.

May 3d, pulse and respiration natural; appears perfectly

conscious, and going about the hospital. Left the hospital May 15th, 1872, well.

As the patient often changed position, twisting both arms and legs, with easy respiration of about 16 to the minute, and pulse good and not too slow, there were no indications for active treatment, and Professor Chisolm called attention to the fact, that on account of the insensible condition of the patient, many would be induced to adopt a course of active treatment, to the injury of the man. He informed us that his policy would be to wait and watch for results, in the meantime feeding the patient at regular intervals as nature needed it, usual support which the patient could not ask for, and that the chief danger was from debility through starvation.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

ART. I. — CHRONIC URETHRAL DISCHARGES. By C. H. MASTIN, M. D., Mobile, Ala. [Read at the Huntsville Meeting of the Medical Association of Alabama. Session of March 1872.]

Mr. President and Gentlemen of the Association,—In the wide field of "Genito-Urinary Surgery," we find that the varied affections which constitute this classification are so numerous, embracing, as it does, diseases of the bladder, urethra, and the organs which are intimately connected therewith, that when I began to consider the bearing of the subject which has been assigned to me to report upon at this session—viz., "Genito-Urinary Surgery," I concluded that the most probable way in which I could hope to engage the attention of the Association would be rather by selecting an especial subject from the general classification, "Genito-Urinary Surgery," and treating it in the form of an essay, than by the dry detail of cases, which would tend rather to weary than to interest you.

At the last session, I then not being a member of this Body, by special invitation prepared a paper upon an operation which had been proposed and successfully performed for the cure of urethral stricture.

I propose on this occasion to take a step further back, and to seek the general cause, the "*fons et origo*," the almost invariable precursor of urethral contractions. In such an investigation we can have but one lamp to guide us, and that must be the light of pathology.

Just here I may be permitted to state, pathology embraces two forms of disease: First, alterations of structure; secondly, alterations of function, both of which must be estimated with a presumed standard of health.

Alterations of structure constitute that condition which we know and understand as the science of "pathological anatomy," whilst pathology, as a general term, must be restricted to the mere "alteration of function."

This division furnishes us with an understanding of the general nature of pathology, as well as of its more limited and usual signification. Although intimately associated and almost inseparably combined, it will be understood that *structural alteration* must precede *functional* disturbances.

It may be that such changes are so slight as to escape detection, possibly referable only to the vascular condition of the organ or tissue affected, and even so slight may be the change, no vestige will remain to mark the site should the disease prove fatal, and an autopsy be made. An evidence of this is illustrated by many nervous diseases which appear purely functional; however instances of functional diseases, *purely* so, are extremely doubtful, and may most generally be referable to *alterations of structure.* Thus we are led to the conclusion, that a knowledge of *structural* alteration is more essential than the same understanding of functional derangements; hence pathology as a guide to diagnosis must itself be guided by the more correct principle of *pathological anatomy.*

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The mere functional disturbances, in reference to a standard of health, can be of no value *apart* from their associated alterations of structure.

This truth is illustrated by many cases of sudden death, after which organic lesions have been discovered, the existence of which had never, during life, been suspected. On the other hand, *alteration of structure* is generally positive and constant, and must supply a more exact method of diagnosis, which not being the case with the principle of *function*, there cannot be a fixed and positive relation between the two, for we know that the same modification of function may accompany very different conditions of structure.

Palpitation of the heart, dependent in one case upon disorder of the digestive system, in another may be associated with simple atrophy of the organ, or the more fatal lesion degeneration into fat. Conversely, the same alteration of structure may give rise to very variable alterations of function; for the degenerated heart may afford *no* palpitation, may furnish *no* functional symptoms previous to its final pulsation *in death*.

Functional disturbances are but as the "Will o' the Wisp"—now present, now receding and forever eluding our grasp, whilst the signals thrown out from the seat of structural alterations prove, when recognized during life, sure and faithful guides.

We hence conclude, under the guidance of pathological anatomy when applied during life, we have the most exact method of detecting and distinguishing disease; and as a sequence the most correct basis upon which to form our diagnosis. How then can pathology avail us anything, or lead to the proper course of treatment? Positively, because it enables us to estimate disease itself as a prime cause by virtue of its functional *operation;* the etiological application of pure pathology. In like manner their continued operation, in their course and tendency, enables us to determine our prognostic knowledge.

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The application of this course of reasoning may be appreci-

ated. When we begin to explore among the rugæ and lacunæ of the urethra, we find a disease which is extremely frequent, quite harmless in appearance, generally neglected by the patient, and although presenting warnings of a sufficient character, is too often not appreciated by the practitioner.

I allude to that protæan form of disease known to the Profession at large as gleet, or chronic clap (a vague and indefinite term), which conveys little or no pathological description of the affection; if anything, even less than the term used by the English writers: "Irritable urethra;" "the goutte militaire" of the French; or the "nach tripper," of the German; a generally and almost universally neglected subject by *all* surgical writers, having received at their hands literally nothing beyond the mere baptism of *a name.*

Gleet so called is, properly speaking, a chronic urethral discharge, amounting usually to only a few drops of muco-purulent secretion coming from some *one* spot within the urethra which is the site of an alteration of structure, which may be but a granular erosion, a thickening of the sub-mucous tissue, or a defined innodular band, the base of a future stricture.

This pathological condition is always the consequence of a blennorrhagia, and the muco-purulent discharge, called gleet, is but the increased natural discharge of the lining membrane of the urethra. Not being normal in its quality, and vitiated in its quantity, it proves by its excess the existence of an alteration of function which has been shown can only follow, as a sequence, the alteration of structure.

Idiopathically, I do not believe this discharge can ever exist, unless it be in some of those affections of the prostate or bladder which throw off a gleety discharge through the urethra, the only outlet; and even here it is but a result of some structural change or alteration in the walls of the bladder, or in the substance of the prostate itself. This chronic urethral discharge, gleet, is, as I have said already, always the result of an imperfectly or badly-treated urethritis, which, in many, very many cases, may be kept up by some rheumatic or scorbutic

taint. It is not to be considered specific in its nature, for in by far the very large majority of cases it is not contagious, causing the patient little or no annoyance beyond the slight inconvenience of the "morning drop."

Every practitioner who has seen much of urethral disease will remember the number of cases which have fallen under his care of individuals who have sought his advice for some other fancied urethral affection, with no idea that their troubles were in any manner connected with this inconsiderable secretion. When such a patient has, on an occasion, given loose rein to his appetites, and indulged too freely either in Baccho or in Venere, his gleety discharge becomes aggravated, and he seeks the advice of his medical counsellor, with the idea that he has contracted a new gonorrhœa, whilst in reality he has by his excesses only increased his old gleet. By a general rule, we know gonorrhœa is not developed so soon after an impure contact, requiring usually from three to five days as a period of incubation. This fact may serve as a valuable diagnostic mark by which we can say, not having known the previous history of the patient, or anything of his antecedents, whether the case be one of gonorrhœa or simply an aggravated gleet. How then are we to be certain as to the true form of the disease which has been presented to us? Simply by a urethral exploration we must search for an *alteration of structure*, and shall expect to find the same in every case wherein a urethral discharge follows close upon a coitus. I mean within some few hours or a day thereafter such an exploration in a urethra previously diseased, and one in which there exists an alteration of structure, will at once manifest *a deviation*, a retrocessement, or a permanent coärctation, the site of an old inflammation which had been imperfectly treated, or perhaps not treated at all.

Upon inquiry now of your patient as to what he has noticed since his recovery from his old gonorrhœa, he will tell you that he has felt some uneasiness in the genital organs, and occasionally a slight discharge, but that it has been so trivial as to have caused him no concern.

As a general fact, gleet usually develops a gonorrhœa *or* an aggravated urethritis *after* an excess in venere, especially if the woman with whom the commerce be had be just recovering from her menstrual flux, or should be the subject of a leucorrhœa; and from this fact oftentimes has a woman been unjustly accused of being the cause of an infection, when the *true* state of the case would show some old liaison had but planted the seed which the new intrigue has vivified.

Although nothing of consequence has been written upon the pathology of gleet, and few, if any, established principles as to its treatment upon scientific grounds, we nevertheless find an immense arsenal of remedies used for its cure. This alone should prove *prima facia* evidence that the disease has been imperfectly understood, and, as a consequence, results have amounted to little or nothing. Hence it is we so often see the sufferer, getting tired and worn out from the unavailing efforts of the regular practitioner, seeking aid from the quack and empiric. Truly, this is the great field wherein this class of men reap their harvest. Fortunately, however, modern science is beginning to lift the veil from empiricism, and, exposing the erroneous opinions of the old school, calls to its aid pathological anatomy, which alone can dispel the errors of the past and establish the means of a correct diagnosis, by which alone we can hope to arrive at a successful treatment.

The disease now under consideration is a local one, confined to *one* spot in the urethra, and hence amenable to local treatment. Yet there are cases dependent *for* their persistence upon a strumous or scrofulous diathesis in persons of a highly lymphatic condition, where the disease will resist all *local* treatment until the patient is placed upon a constitutional one of iron, iodine, and that class of remedies. When we come to examine a urethra affected by chronic inflammation, the instrument rarely discovers more than *one* spot diseased, and this *spot* is always located at one of *three* points: First, just behind the fossa navicularis; second, just at the beginning of the bulba region; third, and less frequently, within the membranous portion.

Here it will be well to bear in mind the fact, an important truth, in reference to the third location, which is, when there has been a prostatic congestion or inflammation at the time of the antecedent blennorrhagia, *then* we will find the spot affected in the membranous urethra.

As far as my own experience has served me, it shows this to be true, and the almost invariable location of true stricture, the sequence of this disease at one or the other of these three points, is a powerful argument in favor of the correctness of this assertion.

Now, then, that gleet, the result of a gonorrhœa, *is* the invariable forerunner of a stricture, we feel that we can establish by the review of the following phenomena: Supposing a case of urethritis, a specific blennorrhagia, having been neglected, or what is worse, imperfectly or improperly cared for, we see the active inflammation pass into a chronic condition; a gleet, so called, is the result. And, as in the *active inflammation* of the antecedent blennorrhagia, there was *necessarily active congestion*, so also in the *passive* or *chronic inflammation*, we must find passive or chronic congestion. What then, pathologically, is the consequence? Certainly one of the following results: First, resolution; second, exudation or deposit, *sub-mucously*, of a plastic material; third, suppuration; fourth, ulceration; fifth, induration, followed by hypertrophy or atrophy; sixth, lastly and less frequently, gangrene.

Ordinary blennorrhagias usually get well by resolution; yet it is not infrequent that the termination is in *induration* at one point within the canal, with a resulting atrophy or hypertrophy of the mucous and sub-mucous tissue, leaving a contracted spot with an inflamed and congested tissue, an alteration of structure from which the muco-purulent discharge emanates.

Now, if a simple chronic congestion has been the result, wherein the vessels have remained only *injected*, and no blastema deposited in the sub-mucous tissue, we can then relieve these cases by a rational plan of treatment—viz., medication *direct* to the spot by means of injections or cauterizations. If,

however, the point diseased has become the seat of hypertrophy or atrophy, with its attendant deposit of innodular tissue, which is the condition of structural change, forming the great mass of organic stricture, we then can have no hope for a favorable result, save from *direct* surgical interference.

When we investigate the results of inflammation as they usually fall under our observation, we find that, as a general rule, there is more or less contraction. We see this in limbs which have been inflamed, where the muscles and integuments are shortened or contracted by position, as is exampled in fractures, rheumatism, and chronic ulcerations.

Long-standing suppuration produces like results, and the inflammation which is the sequence of burns is a notable example, wherein there is found a *new* cicatricial tissue, which becomes shortened by atrophy and contraction. This is an exact parallel of urethral inflammations which have become chronic, and resulted in the deposition of cicatricial or retractile tissue, which in time will become the base of a true organic stricture. When a gleet exists, *a point*, as I have before stated, becomes swollen, and presses upon the calibre of the canal, which is lessened in size. At every passage of the urine, coming with force from a large portion of the urethra, and impinging upon the contracted or narrowed portion, the swollen spot must, as a consequence, become more or less irritated, and the passage of urine prove a continual cause which will keep up the irritation and congestion. This being so, we must, by the general law, have the deposition of retractile tissue, and whenever the deposition takes place, we are sure to have the consequent contraction or coärctation.

How then are we to arrive at the correct diagnosis of a case of gleet by a urethral exploration? Not, certainly, by the introduction of an ordinary metal sound or bougie; because, in passing such an instrument, it being of one size throughout, and the meatus of the urethra *always* less than any other portion of the urethral tube, we should find no obstruction to its passage after it had passed the fossa (except in case of fully-

formed stricture) and consequently no evidence of any lessening of the calibre of the urethra.

If we use in place of such an instrument a small elastic bougie, with a terminal ball or acorn head, which is suited to the size of the urethra, we then have an apparatus with which we can detect the slightest possible inequality in the urethral tube. The instrument to which I refer is nothing more than the old ball-staff of Sir Charles Bell improved by Leroy d' Etiolles, who had it fabricated from gum instead of metal; and this is known as the "bougie a boule" of Leroy. We find in passing such an instrument slowly down into the bladder, and permitting it to remain there some three or four minutes, or until the urethra has contracted upon the staff of the bougie, and then gently withdrawing the instrument, that when the ball reaches the point whence the discharge comes, that it will be arrested in its movements, and we can then mark the exact spot of the commencing retrocessement.

An ordinary silver or elastic sound would be literally worthless in such an examination; whilst by the use of such an instrument as above described, the very slightest deviation, the simplest swelling, or the most trivial stricture, is at once made appreciable.

Gleet exists under three distinct and different conditions: First, as simply a chronic inflammation of one or more spots, with a weakness of the affected parts; secondly, when a change has taken place with swelling and *redness*, the spot becomes contracted and *deviated;* thirdly, in which there are deep structural changes beyond simple congestion and redness. The submucous tissue has lost its normal elasticity, and we begin to have the deposition of cicatricial or innodular tissue: *This is the* stage in which the gleet is passing into that condition which we find in organic stricture.

The principal symptom which arrests the attention of the patient and induces him to seek professional advice, is the "morning drop," which, as observed, is but a single drop of muco-purulent fluid, found in the meatus upon rising in the

morning; whilst he also observes small filaments of shreddy vermacelli-like particles floating in his urine. His anxiety being excited, he seeks advice for what he fears and believes is a spermatorrhœa. Too often is it the case that he falls in the hands of some quack of the specialty class, who confirms his suspicions as to the nature of the affection, one who is utterly ignorant of the true pathological nature of the disease, and who places him under a course of treatment diametrically opposed to any chance of recovery, and by his ill-advised interference insures the formation of organic stricture.

True spermatorrhœa is a very rare disease; true gleet a very frequent one; and here it will not be out of place to remark, whilst *true* spermatorrhœa is extremely rare, and very difficult to treat, there does exist a sort of spermatorrhœa known as "Spermatorrhœa Abstinentiæ," which is often mistaken by the practitioner, and is quite alarming to the patient. It is found generally in that class of men who are remarkable for their celibacy, troubled with varicocele, and is the result of over-excitation, being cured by the simple act of coitus.

Here again science comes to the rescue; the microscope, as an aid to diagnosis, reveals no spermatozoa floating in the purulent secretion, but simply muco-purulent corpuscles. Again the shreddy filaments *float* in the urine, which is clear and not clouded; spermatorrhœa mingles its fluid with the urine, and leaves it clouded and milky. We may have cases in which spermatorrhœa is associated with gleet, for the same causes which produce the gleet may leave behind a seminal weakness, a true spermatorrhœa; for we all know that it is not an infrequent sequence of a blennorrhagia, that the inflammation passing by continuity of tissue along the deferent canal to the epididymis and the body of the testicle, lights up an orchitis; leaving the whole sperm-secreting organism in a state of chronic irritation, *the very* alteration of *structure* which would produce the pathological condition from which we would naturally expect a spermatorrhœa to be the result.

In *these* cases, added to the treatment appropriate for ordi-

nary gleet, it will be found of immense advantage to resort to the galvanic bougie, of which I propose to speak more at length when we come to consider the treatment essential to the cure of *gleet* proper, and the forming stage of urethral stricture.

In a social point of view, gleet is a most troublesome complaint, either for the single or married, and is often the cause of most unjust suspicion, as men afflicted with this disease *often*, as I have before mentioned, believe themselves specifically diseased, and call for an examination of the indignantly yet wrongfully-accused female. In my own experience, I have on more than one occasion been called by the wife, who with outraged feelings was indignantly refuting the accusation, and requested me to pass her under the speculum, as the only means to establish her innocence.

In such instances domestic happiness is destroyed, and it behooves us, as the conservators of social relations, to look into and try and discover the best and most reliable means by which we may early effect a radical cure.

The termination of urethral inflammation is the same as that of inflammations in other tissues, and when a patient informs us that he has once had a blennorrhagia, we must not be astonished to find that he has a deposit of retractile tissue, which will become sooner or later the locality whence emanates a gleety discharge.

I make this assertion, *general* in its acceptation, from the fact that we so constantly see blennorrhagia improperly treated, resort having been had to stimulating injections in the early stage, as is unfortunately the case in the abortive plan formerly much adopted, and which, through the instrumentality of M. Ricord, its author, has found its way into general practice. Seeing the error of the treatment, this recondite observer has at length, I believe, discontinued the method.

Instead of putting logically and scientifically together the different signs and symptoms of gleet, either by inspection, exploration, or reasonable induction, hitherto only an empirical

plan has been adopted; and as a consequence, we see the patient has been treated alone by the use of injections or resinous drugs; and should, by chance, a case recover, a specific remedy is thought to have been discovered, and the same line of medication is retained as the best and most efficacious in *every* case which may fall under observation.

The practitioner has alone been occupied with the suppression of the discharge, without ever having asked himself, what is the origin, what the cause of this secretion?

The inflamed mucous membrane of the urethra differs in no wise from inflammation found in other mucous membranes; an inflamed *conjunctiva* often results in a granular condition of the lids, and were we to pass under ocular investigation (*as we can* by the use of the urethroscope) the inflamed urethral membrane, we would see this identical condition of things existing. Neglected or badly-treated ophthalmias give rise to granular lids. Pannus, ulceration, exudation, hypertrophy, contractions, which are followed by ectropion and entropion, why then should not empirically-treated urethral inflammations give rise to a *granular urethra*, so to speak, followed by exudation, contraction of the sub-mucous tissue, retraction, deviation of the canal; a muco-purulent discharge, and finally a stricture. The tissues are the same, the inflammations identical in their results, and parity of reasoning must be correct.

If such is the case, the same laws must be admitted for the urethra which govern other mucous membranes similarly inflamed, and, as a consequence, that practice alone can be the rational and successful one which is based upon these known laws.

Gleet, then, is caused principally by three pathological states of the urethra: First, chronic inflammation with development and atony of the vascular elements of the urethra; secondly, by deviation and retraction taking place, without the urethral tissue proper being changed; thirdly, by a more serious complication from an organic change of the urethral tube itself, an atrophy or hypertrophy of the corpus spongiosum.

This last complication of the spongy body is the most important, composed as it is of nothing else than a network of veins and arteries; where active inflammation sets in, occlusion of the vessels is not an unusual result, the tissue ceasing to be properly fed with blood, the vessels resolve themselves into cords, which become atrophied and resemble fibrous tissue.

Now nature, ever ready to repair the wrong, sets to work to restore the functions of the corpus spongiosum, a development of new veins and arteries is accomplished, a wall or dike is reared around the site of the occluded vessels, and a retrocessement begins. There now remains a chronic inflammation with a small discharge. How are we to detect this? By the use of the ball-staff, which, as has been shown, will discover the slightest organic change, be it a local swelling, a contraction, or a developed retrocessement; later, whenever there is this change in the calibre of the canal there must be some perturbation in the stream of urine; it may be so very slight as not to have arrested the notice of the patient. Yet in these very cases, after the use of the ordinary bougie for a few days, they are free to confess they feel much relieved in passing their urine, whilst they had declared only a few days before they had never experienced the least trouble in the act of micturating.

The ordinary physical laws will at once explain why this perturbation must invariably result; and we can easily understand why it must prove a constant source of irritation to the inflamed and coärctated spot. In truth, it is one of the most constant causes which keep up a gleet; the chronic inflammation being constantly increased by the mechanical irritation of the urine.

I am aware that these views may not meet the general approbation of the Profession, but I flatter myself if they will put aside old-established prejudice, and carefully use the same method of exploration and investigation, they will be induced, in the end, to adopt the same conclusions which have forced themselves on me.

In years long past I had been induced to look upon this dis-

ease as almost incurable, a sort of opprobrium in urethral surgery; and was disinclined to take charge of a case, my success having been so unsatisfactory, but by the careful and patient investigation of its true pathological nature, which has been acquired only by a knowledge of the structural alterations which take place, the difficulties and disappointments which it had hitherto been my lot to experience have one by one disappeared, and I have been induced rather to seek, than shun my old enemy. The greatest error which I had committed was the careless and insufficient exploration to which I had resorted; an ordinary bougie had been the instrument with which I had sought to discover causes, which it only served to conceal. *Such* an instrument is utterly worthless when we seek for incipient contractions, and for reasons which I have before explained. The French writers advanced the idea that these contractions are located in the mucous, and not the sub-mucous tissue.

If such be the truth, I cannot understand why they should ever end in regularly organized stricture, it not being in the nature of mucous membrane, *unless* with a deeper disorganization to degenerate into cicatricial or retractile tissue.

In the valvular condition, the ball-staff will be most especially required, and will, with absolute certainty, detect the location of the discharge.

The idea exists, that whenever there is pain or soreness in the track of the urethra, made apparent by the passage of the instrument, that *there* is the inflamed or diseased spot. Such, however, is not invariably the case; for even in the soundest and healthiest urethra there is always one spot whence we have more or less pain in the passage of an instrument, which is just at that point where the urethra perforates the ligamentum-carcassoni; a spot at which we would most naturally expect to find a pathological change.

Pain in the passage of an instrument is not necessarily symptomatic of a diseased urethra, for I have seen more than one patient in whose urethra I have detected a diseased spot, with a commencing retrocessement, and was as positive of its

existence as if I had the parts exposed before the eye. Still there was not the least pain experienced in the introduction of an instrument. Other cases have been presented where the most intense pain was experienced from the gentlest examination. Yet the most searching investigation failed to reveal a pathological lesion. *There was no gleet*, which is but a functional derangement, because there was *no* structural alteration to produce it. They were simple cases wherein existed highly organized nervous excitation of the mucous membrane.

Having mastered the anatomical lines and measurements of the urethra, we will find the ball-bougie the most accurate means of diagnosis; but it will be necessary to bear in mind that there are two spots within the canal which must be passed with care and slowness; one located near the bulb, the other just within the membranous portion; here a spasmodic contraction almost always takes place whenever an instrument approaches. Constant experience is requisite to avoid errors at these two points. Be careful, both in the introduction and withdrawal of the instrument, not to permit ourselves to be deceived by a momentary contraction on the one hand, or a natural coärctation on the other.

Another locality, when the mucous fold is strongly developed, just below the fossa navicularis, may lead into error by arresting the ball. This, however, is now so completely within the reach of the eye that the most inexperienced can examine it by the aid of the meatuscope, and without the illuminating power of the endoscope itself.

Among the contractions which are the cause of gleet, I have spoken of urethral *deviations*, which are nothing more nor less than a twist or curve in the calibre of the canal; most generally situated in the membranous portion. In these cases the ball-staff will not always convey the positive and diagnostic information required. Being elastic, it follows the curve of the deviation, and shows that there is something abnormal, but no distinct resistance to its advance or return; hence it is inadequate to convey an exact idea of the trouble.

In the bougie with the modeling wax upon its extremity, we have the ready means at our disposal with which we can discover, with unvarying certainty, this pathological deformity, and enable us to apply the surgical treatment necessary for its removal.

In the use of the ball-staff, we should be extremely careful both in its introduction and removal; allowing sufficient time for the contraction of the urethral canal to take place before removing the bougie, thus insuring the ball to engage the contraction proper, and by the resistance offered in its withdrawal, the pathologically changed place is felt and transmitted to the hand of the operator.

Treatment.—If we hope to be successful in our treatment of any disease, but more especially of surgical maladies, we must base that treatment upon a purely pathological foundation, which must be established upon a correct diagnosis at the time. Hence, in review of what has been said in reference to gleet, we must acknowledge *three* causes or pathological conditions upon which it depends for its persistence, each requiring a distinct course of treatment especially adapted to itself. *The first* of these is caused by a local weakness in conjunction with some constitutional diathesis, which may be either scorbutic, rheumatic, or syphilitic. Here the treatment should be medical and constitutional, rarely, if ever, mechanical.

Secondly, where it is the result of a pathological change in the tissues of the urethra, a chronic inflammation terminating in a contraction, a swelling, or a deviation, calling for mechanical interference, or a combination of the medical with the mechanical.

Thirdly, where an organic change has freely taken place, and we have a confirmed stricture, which is dependent upon a tissue of new formation, with an organized base of cicatricial or innodular form which has been deposited in the sub-mucous layer. This will require an operation by which the new tissue will be divided, and from which both the stricture and the gleet will be cured.

In the first of these conditions we call into requisition *alteratives, specifics, tonics,* and *astringents.* As alteratives, iodine and its compounds, iron and localized electro-galvanic influences, combined with weak injections of the bichloride of mercury, fulfill the indications.

As specifics, the balsamic preparations—ergot, cantharides, and the wine of iron, will each, in its turn, be productive of good results.

The tonic effect of bark, red wine, both internally and locally by injection, with cold hip-baths as an adjuvant, will not often disappoint our expectations.

The astringents, as local and direct applications, by means of the syringe, as injections, either superficial or deep, will suggest the various salts of iron, especially the iodide. The weak, very weak, solutions of perchloride and the persulphate, the salts of lead and zinc, the sulphate or the chloride, with the preference for the sulphate, as it is milder and less caustic. Injections of alum, nutgalls, chloride of lime, creosote, carbolic acid, etc., comprise the main bulk of remedies of this class which have yielded practical results.

Such is an outline of the course to be pursued as medical treatment, with the addition of certain so-called specifics in rheumatic complications, as colchicum, aconite, and that class of remedies which are said to have a specific influence.

These are the general and usual remedies brought to bear upon these cases; so much so, that a patient rarely or never calls upon his medical adviser with an old gleet who does not recite to him almost the entire catalogue as having been exhausted upon him with little or no relief. Hence it is we so often see these old cases progressing to the stage of a confirmed stricture, their possessors having become disgusted with the vain endeavors of professional men for its eradication, and speak with contempt of baffled medical skill as being utterly inadequate to cure "so small a drop."

The solution of the whole difficulty is to be found in the error of diagnosis in the individual case. The basis of all

rational treatment in this, as in every other case of urethral disease, being a careful and thorough exploration with *a ball-staff*, either the metallic one of Sir Charles Bell or the elastic bougie à boule of Leroy d'Etiolles, by which we will be enabled to discover whether the gleet depends upon a swelling, a tightening, or contraction of the mucous or sub-mucous tissue. Should no indication of this condition be shown, we must then determine, by the use of the metallic bougie in combination with the modeling wax or softened gutta-percha instrument, whether the cause is not in *a deviation* at the intra-perineal curvature.

Great care is necessary in the use of these instruments. Rough usage only aggravates the disease, and fails to render satisfactory diagnostic results. Being satisfied that no organic change exists, we must abandon the idea of a cure by mechanical means, and seek by constitutional remedies the relief of the patient. This then brings us to the proper medical or therapeutic course to be adopted. We are first to satisfy ourselves as to the peculiar or particular diathesis which controls the constitution; inquire into the past history of the patient's life; find out whether at any time he has had an attack of syphilis, rheumatism, or whether scrofula has shown itself in his family; what has been his defect as to exercise or diet; whether he has indulged to excess in coitus, or led a life of too rigid celibacy; if he be temperate in the use of wine and liquors, or a drinker of beer, particularly the latter; for it has been observed that gleet exists to a greater extent in those countries where beer is the general drink, than in the wine-bearing districts of France, where it is comparatively infrequent.

The diagnosis being clearly made, the cure may then be effected by that specific class of remedies, so called, as cubebs, copaiba, the terebinthinates, tr. cantharides, iron, ergot, or the remedies which may be called into requisition against the scorbutic, syphilitic, or rheumatic diathesis. And just here it is all important to bear in mind, unless there is a marked change for the better in the case within ten or twelve days, it will then be necessary to resort to some other plan of treatment; because

the remedies either act promptly or not at all; they either manifest their influence in a short period of time, or show by the continuance of the disease that they have not been properly selected, and that they have not sufficient action upon it. The local use of vol. oils of cubebs and copaiba have been used with good results; but the irritation produced by their accidental contact with the integuments often induces violent erysipelas of the scrotum and prepuce; for this reason it is not a safe remedy to recommend for general use. Depletion, by the use of leeches to the thighs or perineum, have afforded so little good results that it is required now only in exceptional cases, where hypærcemia and congestion of the deep intra-perineal portion calls for relief.

Injections have been objected to on account of the danger of orchitis being induced. This may hold good in the use of those irritating and caustic washes which are ill-advised, and which produce an inflammation of the urethra, which being propagated through a continuity of tissue along the different tubes, may thus induce an epididymitis, or even an orchitis. This, fortunately, is oftener the result of the force with which the injection is used than from the composition of the fluid injected. *Ordinary* injections, when properly given, cannot produce such results. *Forced* injections, whether bland or irritating, acting as a rudely-introduced bougie, may, through their violent mechanical dilatation, produce inflammation, ending in swelling of the testicles.

Adhering then to the rule of gentleness in all urethral operations, no such untoward results can follow their use. However well-timed our remedies may have been, we will find that simple treatment will not succeed in all cases; and where we find constitutional defects at the base of this obstinacy, we must resort to the use of *alteratives*. A scrofulous dyscracy calls for the internal use of iodine and its compounds, cod-liver oil, iron, violent exercise, with the local application of very weak injections of the nitrate of silver, or the bichloride of mercury, together with the stimulating effect of localized electricity or

galvanism applied to the urethral surface direct by means of the galvanic bougie, or through the perineum, by the use of the battery itself.

I fancy that I have experienced most palpable results by the use of the galvanic bougie, which superadds to the stimulating effects of the bougie the nervo-stimulating property of a weak galvanic action directly applied to the weakened mucous membrane.

Several of these instruments have been devised and brought into use; all of them, or the greater number being dependent upon the attached battery for their power, which rather complicates and renders them difficult of use, it being almost impossible to graduate the amount of fluid required, or capable of being borne by the delicate urethral surface. This is not the case with the instrument which I have been using for near five years past. I fancy, as I before remarked, that, like the intra-uterine galvanic pessary of Professor Thomas, of New York, we have a simple bougie, capable of inducing all the stimulation which we may require. The idea is an old one, and several complicated instruments have been invented; I, therefore, claim nothing for originality in this mode of treatment beyond simplifying the means of application. If required to increase the power of this bougie, we have only to connect it with the wire of a battery, and it becomes one of its poles.

Where the scorbutic diathesis comes in to keep up the persistency of gleet, iodine will be found to stand preëminently at the head of all constitutional remedies. Many persons prefer its compound, the iodide of potash; but in my experience its use has been anything else than satisfactory, rarely affording any other results than an increase of the discharge; and, indeed, I am satisfied that it has a local influence over the urethral mucous membrane, by which an increase of mucus is caused similar to its constitutional influence upon the salivary glands, by which an increased flow of mucus and saliva takes place from the mouth and throat.

I have been struck with this in numberless instances where

I have used this salt in large doses in secondary and tertiary syphilitic accidents, and in which cases there were no urethral complications, I have been forced to abandon its use for a time, owing to its producing a gleety flow in large quantities. With the exception of Professor Bumstead, I have not had my attention attracted to this point by any writer. He refers to the fact as the result of his observation in cases where he had used it in constitutional syphilis. Its combination with iron, as the salts of iodide of iron, or the syrup of the iodide of iron, in those cases where anæmia exists, is a useful compound, and not infrequently will prove of great advantage.

There is another method of treating obstinate gleet which has not received general notice; but which, with no rational explanation, is nevertheless true. I refer to violent exercise, such as rough riding upon a trotting horse, gymnastics, walking, dancing, etc., especially in apathetic and phlegmatic patients. This will be found to afford, oftentimes, prompt relief. Upon what principle, how or wherefore, beyond the result, I am unable to explain. Horseback exercise would induce the supposition that the benefit should be ascribable to fresh air. Yet we see the same results following the dance in the crowded and ill-ventilated ball-room.

The combination of specifics and alteratives, oftentimes, is productive of much satisfaction; for instance, a combination of ergot and iron has rendered me most unexpected service in one case, to which I can now refer, after the use of almost every other remedy had failed.

In combination with these constitutional remedies, a course of alterative and astringent injections is indicated; but before we resort to them we must satisfy ourselves of the exact spot whence the discharge comes, and this must be done by the ball-probe. Against this spot we are to direct our treatment. If the disease is located in the straight portion of the spongy part, and anterior to the bulb, superficial injections of light pressure will be all which is required to reach the disease. If, however, it exists high up in the muscular portion, and behind the bulb,

then we must have recourse to deep urethral injections. Where ordinary superficial washes are used, the patient can administer them himself with the usual penis-syringe, holding from one to two drachms. But in those cases where it becomes necessary to inject the deep intra-perineal portion, it is then absolutely requisite for the practitioner to attend to their administration himself. Here the remedies required being powerfully caustic and alterative in their nature, as the bichloride of mercury, nit. of silver, or the ioduret of iron, with the perchloride and the persulphate, require that great care should be exercised in forcing them in the deep folds of the urethra. What then are the indications which require deep injections? They are of a two-fold nature.

First. In those long-standing cases upon which an endless variety of alterative and specific remedies have been tried in vain; where local examination reveals no urethral change, no pathological or organic deposits, yet a discharge remains.

Secondly. Where the bougie has been used without success; the case still obstinately refuses to yield to the arsenal of remedies which has been brought to bear against it; generally success will crown our efforts with deep injections.

If the ordinary syringe is unfitted for this operation, how then are we to proceed to inject the deep portion? There have been several instruments invented for this purpose, among which the catheter syringe of Mr. Ferguson, of London, is probably the best. There is, however, an objection to this instrument, which is, the opening is in the end of the catheter and too large; it produces an irritation of the mucous membrane in its passage along the canal by scraping with its edges; and then the stream is propelled directly in advance of the nozzle, and hence does not come so directly in contact with the muscular portion of the urethra throughout its entire extent. To obviate this, I have had the tube perforated with a series of small holes along its sides, which gives it the appearance of a seive. With me this has fulfilled the indications required more to my satisfaction. In some one or two cases I have recently

used a mop, with which I have been enabled, through the endoscopic tube and under the immediate inspection of the eye, to apply the caustic in solution to the inflamed spot. This is a troublesome method, and requires the advantage of a good light; also that the patient should have a comparatively free, open urethra, and one destitute of morbid irritability. Upon the whole, I prefer the injection made with the deep catheter syringe. In some doubtful cases it may be necessary to cauterize with the port-caustic the entire membranous and prostatic portions.

The composition of the fluid to be injected will depend upon the indications to be met in the special case; we may use a dilute of perchloride of iron in the proportion of thirty drops to the ounce of water, or a very weak solution of the nitrate of silver. I myself prefer the injection of the persulphate of iron, or a solution of the chlorate of potash. Mr. Adams, of London, who is an authority on prostatic diseases, uses the nitrate of silver in the proportion of a scruple to the ounce of water. I have used with good results an injection of bichloride of mercury, in strength, one grain to eight ounces of water. When necessary to use the nitrate of silver, I have found it to answer a better purpose in the solid form, or combined in powder with the extract of belladonna, applied by means of the urethral port-caustic, or through Lente's ointment syringe. In those cases of irritable urethra, where the ball-staff indicates the disease, it has appeared to me that the solid nitrate of silver is preferable to injections. In many cases we will find there is so much irritability of the urethra that neither the bougie nor the injection can be tolerated without giving rise to the most intense constitutional irritation, nervous shock, and even syncope. One application of the port-caustique, armed with the extract of belladonna and pulverized nitrate of silver, sweeping the totality of the urethra from the prostatic sinus to the fossa-navicularis, will in the majority of cases relieve the entire difficulty.

Recently I have had under my care a gentleman from the country, who was literally worn down with the irritable condi-

tion of the urethra, his whole system sympathetically unstrung. I found it impossible to pass a No. 4 English sound without producing a violent rigor, spasm of the urethra and bladder, followed by high fever. He appeared when I first met him as a man in the decline of phthisis; he had been in this condition, gradually growing worse, for the last three years. The single application of the port-caustique, followed by a full dose of opium and camphor, with hot hip-baths, afforded him prompt relief, and he is now recovering under the use of tonics and the daily introduction of bougies, the metallic No. 48, of Béneque scale, being passed with ease, and without inducing either spasm or unpleasant symptoms. His blennorrhœa has measurably subsided, the spasm of the vesicle opening has been entirely removed, and his general health almost entirely restored.

I am convinced that cauterization will, in all cases, relieve that irritability upon which certain strictures depend for their obstinacy, and in this manner render the urethra capable of admitting the easy and painless introduction of the bougie, by which the stricture itself is to be relieved. The simple cauterization of the strictured spot will not cure the stricture, as has been insisted upon by partisans of this method; it only places the urethra in such a condition as to tolerate the treatment by the bougie, which is required for its eradication. In gleet we find that the irritability of the urethra is more general, without so much localization, whilst in stricture the contracted spot itself is the place where the irritability exists; hence, whenever we are enabled to locate the exact spot where this irritation is, it will then be better to use the solid nitrate of silver direct to the place; but when there is a generally irritated condition of the deep portion, deep injections with the syringe-catheter will be found best suited. With the ordinary syringe deep injections cannot be made, from this obvious reason, the anatomical structure of the urethra is such that we cannot force the injection further than the bulbous portion; here the narrowing of the tube, together with the presence of a fold of mucous membrane, will prevent the fluid from entering the membranous

urethra; and the danger from the hydrostatic pressure, when we attempt to force the liquid into the tube, renders the mouth of the seminal vesicles and the deferent duct liable to become distended, and irritation and inflammation lit up, may be transmitted to the epididymis and the testes, and develop a case of orchitis.

An important point to be borne in mind in the treatment of these cases with injections, either deep or superficial, is to suspend their use after three or four days, thereby permitting the urethra to recover from their irritating effects and let us see whether or not the discharge will cease after the superinduced irritation has relieved itself. There is another remedy which has received much laudation, but of which I have had no personal experience; that is blisters applied along the perineum, and even along the entire course of the urethra above the scrotum.

In those cases which depend upon a rheumatic diathesis, use various ante-rheumatic remedies, as aconite, quinine, opium, but more especially the acetous extract of colchicum, internally, with a due regard to the state of the urine, correcting its acid or alkaline properties as they may predominate by the use of appropriate constitutional remedies, not neglecting the use of the bougie or soothing injections of mucilaginous fluids, combined with the extracts of opium, cicuta, belladonna, or infusions of poppy heads. Such is a condensed outline of the medical treatment required, from which we are to fall back upon the broad proposition with which we started—viz., all modes of treatment, whether purely constitutional or combined with local applications, will prove utterly nugatory when there exists a pathological or organic change of structure in the urethra. Here it is, we contend, that only surgical means will cure the gleet.

And, as a consequence, whenever we have had a chronic inflammation of long duration in the urethra, we can expect to find a local *swelling* at one or more points; a *deviation* within the intra-perineal or the muscular portion, or perhaps an organic change of tissue in any part of the urethral course. Here, as a necessity, we are called upon to resort to some mechanical

interference, and the bougie, in one form or the other, is then the only remedy. The bougie acts not alone as a mechanical aid; but by giving the canal its previous size; by pressing upon the injected vessels; and, perhaps, reducing a deviation, acts as a most powerful alterative, converting a chronic inflammation into a more active state; substituting one disease, as it were, for the other, leaving the induced to be removed by the proper medical care. In such cases we see the very list of specifics which, prior to the use of the bougie, had been futile, now working like magic, and the old gleet yielding to remedies which had been before perfectly useless. In such cases the proper time for the use of specifics is just at that moment, when the inflammation which has been induced by the bougie has subsided; and then we will be required to keep up the use of specifics from five to six weeks to complete the cure; but where we have an essential change of the structure of the urethra, then we may have to use the bougie for a much longer period.

In the use of the bougie, it matters very little whether the secretion has been much or small, because its amount is not indicative of the amount of lesion, for the secretion may be very scant, and yet a degree of deviation may exist; whilst on the other hand the secretion may be very abundant, and upon the exploration with the ball-staff we find no appreciable change in the urethra.

The proper course to pursue, is to begin the treatment by passing down to the spot a full size bougie à boule; one which will easily detect the contraction; one which will exert some pressure upon the point. It is to be held in this position for five to ten minutes each day for ten to twelve days, or until the contracted point has yielded, after which the urethra should be distended to the maximum point of dilatation possible by the metallic bougie.

In cases of simple deviation we begin with a bougie which will just fill the urethra, increasing its size gradually from one to three numbers at each sitting, until the largest size of the scale can be passed, even though it should become necessary to

split the meatus to enable the bougie to enter In those cases where we have swelling and tightening, not connected with firm deposits, it will be preferable to begin the treatment with a size smaller than the contraction, gradually passing to a larger instrument, so as to avoid the possible urethral fever, with its sequence, an orchitis. This may be avoided by the cautious use of the instrument at the first sitting. As it is true that in those cases where no shock is induced by the first introduction of the sound, we are not liable to see it follow the subsequent use, unless great force and roughness have been used.

Should such an accident occur, it can be most promptly met by the use of copious injections of cold water into the rectum and binding up the testicle with a starch bandage; during the whole treatment the patient should wear a suspensory, avoid sexual intercouse and the use of excitants.

Following as a sequence this course of treatment, we have results of a three-fold character: First, the secretion ceases altogether during the introduction of the bougie, which may have been very short. The examination now with the bouge à boule detects no abnormal state, and the patient gets well. This termination is the one most to be desired, as it will enable us to prognose a permanent cure. Second, the secretion persists, and yet the ball-probe does not indicate anything wrong in the canal, we find no contraction, no deviation, only an increased or constant secretion; these are cases requiring the deep and full injection of the membranous portion; here benefit may arise from the use of an emulsion of the volatile oil of copaiba, used through the deep injecting syringe, or the weak injection of nitrate of silver, one-third of a grain to the ounce of water, combined with the extract of belladonna or a weak solution of perchloride of iron. There is an important point not to be forgotten in the use of deep injections, which is, if one material does not produce the desired results in the course of six or eight days, it will prove futile to pursue it longer, and another must be substituted at once. The third result is, when the bougie has produced the urethral reäction, and still the ball-staff

indicates inequalities, or, it may be, that the metal sound, or the elastic one with the softened wax, shows a deviation still to exist at the perineal portion. The case then presents an obstinate front, which may, and most probably will, require the prolonged use of the metal bougie for five or six months. Here perseverance in the course of treatment will in the end effect a cure. These are cases in which the organic change has begun to attack the sub-mucous layer, and a fibrinous tissue with atrophy or hypertrophy has begun to be deposited in the meshes of the spongy body. This elastic tissue yields at every introduction of the bougie, and as rapidly contracts upon its withdrawal, as is shown by the introduction and exploration with the ball-staff; the first stage of organic stricture has been established, and if, after the judicious use of the bougie for four or five months, the secretion still remains, we may be assured that the case cannot be cured, save by an operation. We are probably contending with a stricture of the large calibre; in truth, we have to combat with that same cicatricial tissue which is the base of all strictures, and which can only be relieved by a full, free division; as to the particular kind of operation, it is of little import, the principle involved, it matters not which method is adopted, is to carry the knife freely and fully through the new tissue, being careful to extend the same from the very extreme confines of the coärctation, and seeing that no bands or fibres are left, after which a systematic use of the metal bougie is to follow and complete the cure.

In relation to the use of caustics in this degree of the affection, I must confess I cannot see the point to be gained. European surgeons are in favor of their use; but when we resort to the milder forms of the caustic, as for example the nitrate of silver, I am not certain that it acts as a caustic at all, it does little more than corrugate the mucous membrane, without producing an eschar of any importance, whilst on the other hand, by the use of the more potential of these agents as the potassa-fusa, we certainly can expect to have no results from a very minute particle when introduced into the urethra, whilst to gain the effect

desired, we are forced to use at least one-half to three-quarters of a grain. With this amount we incur the risk of extensive cauterization of both the diseased and healthy tissue, which will be followed by sloughs sufficient at least to alter, if not destroy, the normal condition of the canal, thus producing a state of affairs infinitely worse than the one we are attempting to relieve. Again, we all know that the physiological action of caustics is just the reverse of what we are trying to produce. Caustics contract parts, they never dilate them. We have a familiar example of this in the case of burns, where a cicatricial tissue follows as the result of a potential or actual cautery.

Upon this principle we use the powerful caustics to give tone and contractile energy to the various relaxations; as, for instance, in cases of prolapsus ani, prolapse of the vagina, they have been used to produce this contractile tissue as a remedy against the prolapse. How then is it possible that it can act as the reverse in the closed canal of the male urethra? Another proof of its action is to be gathered from those cases of atresia of the uterine cervical canal following the deposit of innodular and cicatricial tissue, the result of the use of caustics to an ulcerated cervix.

Hence, where this tissue requires to be destroyed, the knife appears to be the means called for, and for myself, I shall adhere to this method until the advocates of the escharotic system convince me, by some more substantial argument than their experience, that gleet, depending upon a new formation of contractile tissue, can be cured without the use of the knife; and in this determination I am sure to be sustained by those parallel cases of contractions which are so often presented to us for operation; as, for example, entropion and ectropion; these often follow long-standing ophthalmias. The contracted tendons and integuments caused by burns, or other long-suppurating surfaces; if we compare the contracted urethra with these cases, we will at once see that the same course of treatment is required in each. We do not use potassa-fusa in entropion or contracted tendons. We use the knife. We displace according

to the fixed rules of autoplasty, cicatrices, and contractions. We stretch and elongate, and no one would, for a moment, propose to cure a case of talipes by the use of either the mildest or the most potential of the caustics. The same rule must be followed in organic contractions of the urethra.

I am free to acknowledge that operations upon the urethral system are not altogether destitute of danger; but, on the contrary, not more so than operations of the same magnitude done in other portions of the body. But I will further say, that with care and delicacy of manipulation, guided by a thorough knowledge of the anatomical structure of the parts, I believe they are attended by a greater degree of success.

There are certain necessary points to guard, which are to be ever before the mind of the surgeon. In the use of the bougie, carefully act so that the patient be not overwhelmed by the nervous shock induced. Avoid the too rapid dilatation of the canal, for fear of mutilating the mucous membrane, and the consequent induction of urethral fever, pyæmia, or orchitis; giving preference to the metal over the soft or elastic bougie, as it proves of easier introduction, and is less irritating to the canal. Be cautious and slow in passing the spots indicated by the triangular ligament, the locality of the bulb, the fossa-navicularis, and membranous portion. Follow with care the normal windings and bendings of the tube, and do not injure the urethra itself, for here we may produce hæmorrhage of an alarming character, which, however, may be easily controlled by external pressure, aided by the introduction of a full size sound filling the canal.

With care and prudence these troubles may each be avoided, and with the worst class of cases we can, with almost absolute certainty, prognose a favorable termination where our diagnosis has been well established and the course of treatment pursued been conducted with care and gentleness.

To insure all this, we must remember the maxim in urethral surgery—always to handle both the urethra and instrument "*Tuto cito ac jucunde.*"

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

ROME, GA., August 30, 1872.

Dr. Paul F. Eve, Nashville, Tenn.:

My Dear Doctor,—After duly weighing all the opinions and arguments I have been able to get from my professional friends, I have felt it to be my duty to go forward in an effort to rescue my patient, about whose case you so frankly and so kindly advised me.

On Saturday, the 17th, I removed her ovaries. It is now the fourteenth day, and I can say with confidence she is, beyond peradventure, in her recovery.

I have been bold enough, for certain reasons, to do this operation just as she was on the eve of her menstrual crisis, and have been privileged in the opportunity of holding between my fingers, and exhibiting to others, the *living human ovary in the very act of its most vital function, ovulation!* This I believe to be unique in the annals of surgery and physiology.

By my interposition, I have succeeded most completely in my expectation of arresting at once the menstrual violence, and thus warding off an attack which, in my judgment, *would have caused her as much suffering and peril to life as would and has the operative procedure to which I have subjected her.* This opinion, I may say, is corroborated by the observations of the patient and her friends, as far as they can judge.

What is to be the fate of an operation so new and bold, it would be presumption in me to predict. I have hope that it will, *in time*, and by the logic of repeated successes, receive the recognition of earnest and good men in the Profession everywhere. I can hardly expect this now. For the present I am quite prepared to be gibbeted on many a critic's trenchant lance. I have a comfortable hope, at least, that I will not be *killed by neglect.*

Please say to Nicol for me that I tried to "go slow," but I

could not. I trust he won't be ashamed of me, by and by, when the verdict is fully entered up.

In due time I shall take pleasure in laying upon your table, in print, the full particulars. With renewed thanks for your kindly interest shown me, I am, dear doctor,

Respectfully your friend, ROBERT BATTEY, M. D.

LOUISVILLE, Sept. 24, 1872.

E. S. Gaillard, M. D.:

Dear Sir,—The value of thermometric observations in disease is very much vitiated by the fact, that there is no uniformity as to the *time* during which observations are continued. I have noticed much diversity in this respect in the practice of different physicians. Some make hurried observations, continuing two or three minutes only; others extend them through five minutes, whilst many others do not measure time by the watch at all. The bad effects of such a system, or rather absence of system, upon the value of comparative reports of temperature, are too palpable to require further comment.

It would not be difficult to induce the Medical Profession generally to adopt a uniform period during which all temperature in disease should be tested. If you and other journalists would urge the importance of such a measure, a definite, uniform time (say five minutes) would soon become the rule, and it would add greatly to the precision and usefulness of thermometric reports as applied to the study and management of disease. If in any case circumstances should make it impossible to continue an observation during the time established by such rule, the report of temperature should be accompanied by the time of duration of the test. Very truly,

R. C. HEWITT, M. D.

VICKSBURG, MISS., September, 1872.

Dr. E. S. Gaillard:

Dear Sir,—Much has been said of late in regard to the relations between the druggist and physician.

A circumstance came under my notice a few moments ago which bears upon the subject. I saw the following recipe presented at a drug store:

℞.—Iodid Potass., grs. xxxv.;
Sarsaparilla, O. i.;
M. S. Teaspoonful three times a day.

The drug *clerk* told the man, a negro, who held the recipe, that he would put it up for $2.25. I told him not to put it up, as the doctor had inadvertently neglected to say what preparation of sarsaparilla he desired. He (the clerk) said he knew his business, and that the writer had told him how to fix such recipes.

He filled it as follows: He took

Fluid Ext. Sarsaparilla, ℥ iv.;
Syrup Sarsap, ℥ iii.;
Aquæ (I suppose), ℥ ix.;

Numbered and labeled the recipe, and received $2.25. This all happened in the presence of Dr. B. and myself.

I am prepared to furnish names and places if necessary, and prove that the clerk never saw the physician who wrote the recipe. * * Y.

NOTE.—A drug clerk who would act thus should be ejected from office by his employer. If the employer sanctions such swindling, he should be exposed in local and State Societies, and all medical patronage should be withdrawn from him. The physician whose prescription formed the opportunity for such swindling should inform his patient of the fact, and unite with him in prosecuting the Drug House for obtaining money under false pretences.—ED.

INDIANOLA, TEXAS, August 27, 1872.

Dr. Gaillard:

I was called on, about three months ago, to treat a compound fracture of the humerus, at its surgical neck, in a boy about fifteen years of age. The patient had met with the accident some five hours previous to my seeing him, and had been conveyed in an open wagon twenty miles to obtain medical aid from me at this place. The lower fragment of bone protruded

through a ragged opening to the extent of one inch, and the broken surface was oblique. I had a consultation, and urged the removal of the protruding portion of bone, though it could with some little difficulty be reduced. I found that the fragments could not be kept in apposition, owing to the nature of the broken surfaces, thereby causing much irritation and producing suppurating discharges from the wound. The bone, however, was returned. I applied a starch bandage to the limb (leaving exposed the wound), with well-fitting shoulder-cap, the bandage for which being continued around the opposite side of the body in figure of eight form. The arm was well padded along its inner aspect as far as the elbow, securely retained to the side, a sling for the forearm provided, and the patient allowed to take moderate exercise in the open air, with the direction to dress the wound frequently with a prescribed mixture of carbolic acid and glycerine. During the period of suppuration from the wound, the boy was kept well nourished. When the patient was seen, about a month after the accident, several pieces of bone (which had been the sharp angle on the broken surface of the lower fragment) were removed, and from that time the wound continued to improve as well as the general condition of the patient. At the end of about nine weeks the bandage was removed, I found the wound entirely closed, and at this writing the boy has all the motions of his shoulder-joint and arm as perfect as ever.

Believing this to be an unusual fracture, having seen few instances of the sort in the various works on surgery, if you deem this case worthy of record, you are at liberty to publish it.

Very respectfully yours,

H. K. Leake, M. D.

U. S. Marine Hospital, Port Louisville, Sept. 6, '72.

Dr. E. S. Gaillard:

W. W. was admitted into this hospital on the 3d day of June, with an oblique fracture of the upper third of the femur. This accident occurred five days previous to his admittance into this

hospital. The plaster of Paris bandage was applied, and in six days the patient was able to walk about the yard (by the assistance of crutches). On July 13th, a little less than six weeks, the bandage was removed, and perfect union was found to be the result. The limb was not shortened in the least.

Respectfully,

JOHN L. GORDON, M. D.,
Assistant to Surgeon in Chair.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

THE SCIENCE AND PRACTICE OF MEDICINE. By WM. AITKEN, M. D., etc., etc. Third American from the Sixth London Edition. Edited, with additions, by MEREDITH CLYMER, M. D., etc., New York. Published at Philadelphia: Lindsay & Blakiston. 1872.

As other editions of this work have been noticed in this Journal, it is only necessary to give the reader important facts in regard to these new volumes. As to the character of the work, it is not necessary to furnish any testimony; it has been fully established and sustained, both in Europe and America, and it rests upon an impregnable foundation. The work has been enlarged, remodeled, carefully revised, and many portions of it have been entirely re-written. The nomenclature is new, being that adopted by the Royal College of Physicians, by the British Army and Navy, and so far by the British Government that it has placed (at its expense) a copy of it in the hands of every registered medical practitioner in England, Ireland, and Scotland. Each volume contains over one thousand pages, and there has been furnished one hundred and eighty wood-cuts. The work has been for fourteen years before the Profession. There have been five editions of it exhausted in England and two in America. There are many excellent additions to the

work; diagrams illustrative of typical ranges of temperature in diseases; sphygmographic tracings; new "cuts" illustrating laryngeal diseases, etc., etc. The American editor has added articles on camp-measles; spinal symptoms in typhoid fever; typho-malarial fever; chronic malarial toxæmia; cholera-infantum; chronic alcoholism; delirium of inanition; chronic pyæmia; syphilitic disease of the liver; shaking palsy; myo-sclerosic paralysis; cerebro-spinal sclerosic paralysis, etc. A pleasing feature in the work is a memorial page, dedicated to Sir James Clark, and setting forth briefly the chief incidents of his long, valuable, and beautiful life.

Physicians are so familiar with the style and general features of this work that it is unnecessary to comment upon them. As a work on Practice, it is by far the most voluminous now before the public. The author has made it a miracle of judicious and exhaustive compilation, while, at the same time, he has added much of original research and independent commentation. His fault is prolixity. His merit, elaborate exhaustion of subjects analyzed. The American editor has done well. While every just thinker must condemn unsparingly the American vice of publishing foreign works without remuneraing the author, and the invariable custom of using such works, not only for trade purposes, but for enabling American physicians to so edit them as to advertise themselves, and to issue articles which, if not thus buoyed, would fall still-born from the Press, it must be admitted that, in the publication of this work, there is much forming an exception to the vices indicated. The publishers adopt the acknowledged custom of the country, and as this is the custom, it is not to be expected that they alone should depart from it. More than this, they have issued the work in a manner absolutely unexceptionable. The volumes presented by them are beautiful specimens indeed of typography; they are without fault or blemish. The editor, too, unlike most American editors, has not used this foreign work as a buoy for his literary ventures, but has given it increased value by his excellent papers. Dr. Aitken has recognized this, and has incorpo-

rated much of Dr. Clymers's views (in previous editions) in the present volumes. His work can never become a text-book. It is too voluminous, but for purposes of reference, it is indeed invaluable.

CONSOLIDATED CATALOGUE OF THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF LOUISVILLE, KY. 1872.

This is a welcome and useful publication. It gives the number of graduates for each year, from the first year (1838) of the organization of the Institution to date. The catalogue is well issued. An objectionable feature about it is, that the representatives of the honorary and ad-eundem degrees are alphabetically classified with the regular graduates. This does not, of course, furnish a just and accurate exhibit of the operations of the school. It is also very unjust to those holding the honorary and ad-eundem degrees; as it represents them to be graduates of one year, when they may have been (and usually have been) physicians who had graduated several years previously. An illustration of this injustice may easily and appropriately be given. Dr. R. O. Cowling, of this city, is represented in this catalogue to be a graduate of 1869. Now, this gentleman has issued a circular in which he, kindly, offers to teach his medical brethren the science and art of surgery in their practical relations. Such an offer, coming from a graduate (of any University) of three years' standing, would justly be regarded as a sublime piece of presumption; but when it is known, as it ought to be, that Dr. Cowling graduated at least two years before the time mentioned, his kind offer to teach his brethren surgery, and to give them the benefit of his long and valuable experience in this connection, will not only be regarded as highly proper, but becomingly modest and natural, in so experienced and skillful an operator. Many other illustrations might be given, but this is unnecessary.

ON THE FUNCTIONAL DISEASES OF THE RENAL, URINARY, AND REPRODUCTIVE ORGANS, WITH A GENERAL REVIEW OF URINARY PATHOLOGY. By D. CAMPBELL BLACK, M. D., L. R. C. S., Edinburgh; Member of the General Council of the University of Glasgow, etc. Philadelphia: Lindsay & Blakiston. 1872.

This is a work which should be universally purchased. It is a small octavo of 292 pages, and in this small compass offers a mine of pathological and therapeutical treasure. It is the most valuable work which has appeared in connection with the subjects indicated. Surgeons are especially recommended to purchase it. In renal diseases, in cystic troubles, in urethral complications, etc., it is certainly a most valuable guide. It is well written, and is based upon large and most valuable experience. It is comprehensive, concise, lucid, practical, and entertaining. It is especially and confidently commended to the Profession.

CHEMICAL AND PHARMACEUTICAL.

'Dirait, ædificat, mutat."—HOR.

Red Precipitate Ointment.—The United States Pharmacopœia directs lard ointment for making unguentum hydrargyri oxidi rubri, but having had frequent difficulty in preserving the beautiful reddish color of the ointment, I was induced a few years ago to institute a series of experiments to obtain a more reliable preparation. After many experiments I became convinced that a compound of castor oil and white wax would be just what I wanted.

The following is the formula I have adopted:

℞.—Hydrarg. Oxid. Rub. sub. pulv., ℥ i.;
Olei Ricini, ℥ vi.;
Ceræ Albæ, ℥ ii.
Misce l. a.

This ointment will preserve its beautiful reddish color and proper consistence for years without change.—*Ex.*

Fowler's Solution.—I have altered the process of the United States Pharmacopœia for making Fowler's Solution, it being too tedious, and requiring at least from two to three hours' boiling or the heat of a water-bath. I would therefore submit the following mode of preparation: Take of arsenious acid, in pieces, and bicarbonate of potassa each sixty-four grains. Immerse them into a test-tube of the capacity of one ounce or more; add the smallest quantity of distilled water that is necessary, about 2 or 3 drachms, and boil the mixture over an alcohol or gas lamp. The carbonic acid will be evolved, and the combination of arsenious acid with the potassa formed immediately, in less than two minutes. To the solution add sufficient distilled water and 1 ounce comp. spirits of lavender, to make it measure 1 pint, and filter. By taking 6 drachms of water or more, I could not procure a perfect solution within an hour, even by using the test-tube. My opinion is, that only a very concentrated solution of the potassa carbonate dissolves the arsenious acid so quickly.

This method will enable a skillful pharmaceutist to make a gallon of unfiltered Fowler's Solution in about five minutes, which is less time than many extemporaneous prescriptions require.—*Ex.*

Danger from Gutta-Percha Catheters.—So many cases have occurred of the retention of fragments of gutta-percha catheters in the bladder, that surgeons are discarding such catheters entirely from use. They sometimes become brittle and crack like glass; or they soften when left in the urethra, and portions are retained in the bladder.

A New Specific.—Collodion, 100 parts; carbolic acid, 10 parts; tannin (Pelouse's), 5 parts; benzoic acid (from gum), 5 parts. Mix ingredients in the order above written, and agitate until solution is effected. This preparation has a brown color, and leaves on evaporation a strong adherent pellicle. It instantly coägulates blood, forming a consistent clot, and a wound rapidly cicatrizes under its protection.—*Med and Surg. Jour.*

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

The Romance of a Poor Young Man.—At the beginning of the sixteenth century, there was in the town of Laval, in France, an honest trunk-maker who had a son. He apprenticed him to a barber surgeon. The son, thoroughly enthused with his work, left his humble teacher and made his way to Paris. He was poor, he had few books, and only the most obscure, inexpensive teachers. But he had what was far better, an undying enthusiasm, an unremitting devotion to his work. In 1536 this obscure young doctor followed the French army into Italy. He had common sense, he had courage. He did not hesitate to attack the barbaric surgery of the time, he kept boiling oil away from wounds, and he was not afraid of cold water. His results were deemed miraculous. Returning to Paris in 1539, the unknown young doctor of three years before found himself famous, and was received with the highest honors by the Royal College of Chirurgeons. On the renewal of the war, he interdicted the application of red-hot irons to bleeding vessels, and demonstrated the efficiency of the ligature. He knew nothing of Latin, the *sine qua non* of an educated man in that day, yet venerable universities showered degrees upon him. He wrote most creditably upon surgical topics. He was the friend of kings, was king's surgeon to Charles IX. and Henry III., and attended Francis II. upon his death-bed. And this was the romance of a poor young man, the romance of a life of unremitting, enthusiastic work. The name of this poor young man was Ambrose Paré, a name we still delight to honor.—*Dr. Crosby's Address, Univ. of Michigan.*

Precocious Development.—Fluegal describes in the "Bayr. artzl Intell.-Blatt" (No. 49, 1871) the case of a female child who died of diarrhœa at the age of five and a half years. She

was five feet in height. The incisior teeth had all appeared when she was six months old, and at nine months she had all the molars. At a year and a half old she menstruated; and, especially in her later years, the periods were tolerably regular. The external genital organs were well developed, without hair; the breasts were full, and the pelvis roomy. The condition of the internal genitalia was not ascertained. As regarded her intellect, she did not appear to be in advance of other children of her age, although she had begun to speak when six months old.—*Brit. Med. Jour.*

The Uterine Sound.—In regard to the history and manner of using the uterine sound, A. Courty, Clinical Professor School of Medicine of Montpelier, France, in his work on "Diseases of the Uterus and its Appendices," observes that, it is probable that the idea of introducing a sound into the cavity of the uterus to measure its depth and to explore its surface is not new. During the last century Levret sounded the uterus with a whalebone stylet. In 1828 Lair introduced into the cavity of the cervix Larry's grooved probe or sound, the extremity of which he curved gently like a female catheter, and he even recommended that the speculum should be withdrawn about a third, and that it should be lowered as much as possible to facilitate the penetration of this sound from the cavity of the neck into that of the body of the uterus.—*Ex.*

Royal Victims to Small-pox.—Dr. John Gardner ("New York Medical Journal;" from the "Edinburgh Medical Journal") has collected the following history of the ravages of small-pox in some of the royal houses of Europe, hoping thus to impress the public mind more forcibly as to the advantages of vaccination:

Among the family of Charles I., of Great Britain, of his forty-two lineal descendants up to the date of 1712, five were killed outright by small-pox—viz., his son Henry, Duke of Gloucester; and his daughter Mary, wife of the Prince of Orange, and mother of William III.; and three of the children of

James II.—viz., Charles, Duke of Cambridge, in 1677; Mary, Queen of England, and wife of William III., in 1694; and the Princess Maria Louisa, in April, 1712. This does not include, of course, several attacks not fatal, such as those from which Queen Anne and William III. suffered. Of the immediate descendants of his contemporary, Louis XIV., of France, (who himself survived a severe attack of small-pox), five also died of it in the interval between 1711 and 1714—viz., his son Louis, the Dauphin of France, in April, 1711; Louis, Duke of Burgundy, son of the preceding, and also Dauphin, and the Dauphiness, his wife, in 1712; their son, the Duc de Bretagne, and Louis XV., the great grandson of Louis XIV. Among other royal deaths from small-pox in the same period, were those of Joseph I., Emperor of Germany, in 1711; Peter II., Emperor of Russia, in 1730; Henry, Prince of Prussia, in 1767; Maximilian Joseph, Elector of Bavaria, December 30, 1777.—*Ex.*

Sarcina in Blood.—Dr. Ferrier, of King's College, London, calls attention to a curious fact which he has just discovered, of great importance in reference to the much-discussed subject of disease-germs. He states that the peculiar microscopic organism, the sarcina ventriculi, which has hitherto been found almost exclusively in diseased conditions of the stomach, exists in an undeveloped state constantly in the blood, both in health and disease. Dr. Ferrier further states that the minute particles which are constantly found in vaccine lymph, and which have been supposed to be the active agents of the vaccine virus, are nothing more than undeveloped *sarcinæ.—British Medical Journal.*

Benjamin Rush and Henry Holland—A Contrast.—It is related of Sir Henry Holland, M. D., that very early in life he determined never to allow himself to be so engrossed by his medical practice as to prevent his spending two months of each year in travel, and that he carried out this resolution through a career of fifty years. His purpose was to secure for himself long life, health, and happiness. A striking contrast was pre-

sented in the case of Dr. Benjamin Rush, of whom we were once informed by an aged physician who had been his student, that in the latter portion of his long life, he boasted that for thirty years he had not spent a single night outside of the city of Philadelphia. The example of the latter is more creditable to the philanthropic character of the Profession, though love of self may have been a leading motive with both.—*Ex.*

Cauterizing Venereal Sores.—Dr. J. Rogers, of this city, believes the following to be a decided improvement on the present method of cauterizing venereal sores, as it causes little or no pain, and seems to give quite as favorable results. First, saturate the sore with a solution of carbolic acid (gr. xx. to aq. ℥j.), using a brush or atomizer, the latter being preferable; then touch the part with pure carbolic acid, followed by pure nitric acid. The above has given him entire satisfaction for nine or ten months past, and, he doubts not, will be valued by those who choose to try it.—*Ex.*

A Novel Surgical Operation was recently performed by a San Francisco physician. The patient had been shot. The bullet entered the right side, a little above the hip, and in probing the wound, the surgeon discovered where the bullet lay. He was compelled to enlarge the orifice of the wound, in order to introduce the forceps, when the wounded man, who was under the influence of liquor, struck him a powerful blow on the side of the head, which caused him to fall to the floor. He then ran away, and when the doctor recovered himself, he found the forceps in one corner of the room, and near the instrument was the bullet, which had been extracted by the force of the blow. The doctor says that, as a surgical operation, it was a complete success, but still he is not partial to the method.—*Medical and Surgical Reporter.*

Ileus Successfully Treated by Electricity.—Dr. Bogdán reports in the "Wiener Medizinische Presse," March 10, 1872, a case of ileus successfully treated by electro-magnetism after the more usual remedies had failed to afford relief.—*Ex.*

Chinese Surgery.—John G. Keer, M. D., Chief Surgeon of the Canton Hospital, writes that the department of surgery in this empire can scarcely be said to exist, beyond the application of caustics and plasters to tumors and ulcers, and of poultices to broken bones. They are entirely helpless. There is no native doctor in all China who can give aid in any case of accident or disease which requires manual or instrumental interference. The inestimable benefits of operative surgery in all its branches are unknown to them. They are entirely without surgical instruments and all the apparatus which modern ingenuity has applied to the relief of injuries, deformities, and disease.—*Cincinnati Lancet and Observer.*

Anecdote of Dr. Jenner.—We take the following anecdote of this distinguished man from the "Medical Record": The discoverer of vaccination having discontinued his professional visits to a patient on account of her improved condition, sent a couple of ducks to the mother of the convalescent lady, accompanying the present with the following note:

> "I've dispatched, my dear madam, this scrap of a letter,
> To say that Miss Lucy is very much better;
> A regular doctor no longer she lacks,
> And therefore I've sent her a couple of quacks."

The lady addressed returned thanks thus:

> "Yes, 'twas polite, truly, my very good friend,
> Thus 'a couple of quacks' to your patient to send,
> Since there's nothing so likely as 'quacks,' it is plain,
> To make work for a 'regular' doctor again.—Ex.

Reform of Inebriates.—The "Washingtonian Home," in Boston, designed to assist inebriates who desire to reform, has been in successful operation for thirteen years, and during that period nearly four thousand patients have availed themselves of the privileges of the institution, and in a great number of cases men who have been given up by their friends as hopelessly addicted to intemperate habits, have been restored to respectability and usefulness. During the past year the number of patients under charge was 276.—*Ex.*

Chloroform in Labor.—Dr. Graily Hewitt, in the Obstetrical Society, London ("Medical Press and Circular"), uttered the following language: "We have come (some of us, at all events,) to recognize the fact that chloroform has a tendency to make labor *lingering;* that it sometimes enfeebles the uterus, and may thus cause hæmorrhage. This tendency it is proposed to do away with, by diluting the chloroform by mixture of alcohol or other vapors, or by accurate mixture with air. Dr. Sansom has pointed out the great liability to the inhalation of poisonously high percentages of chloroform at high temperatures, unless proper care be exercised. Mr. Ellis has given us new inhalers for effecting such mixtures. The general conclusion I take to be, that in ordinary midwifery practice, the anæsthetic should be diluted; that it should not be given to produce the full effect, and that in all cases, rather excessive precautions against hæmorrhage are required when chloroform is given.—*Virginia Clinical Record.*

Tincture of Iodine in Vomiting.—Schneider of Offenburg ("The Doctor," April 1, 1872) administered tincture of iodine in doses of ten drops on sugar thrice daily to a patient who was troubled with salivation and vomiting after intermittent fever. Although the vomiting had proved rebellious to all other treatment, it yielded to tincture of iodine.—*Ex.*

MEDICAL NEWS.

"Nulla dies sine linea."

Nuisance Abated.—By an act of the British Parliament, just passed, it is ordained that no person shall use or employ, in any manufactory or any other place, any steam whistle or steam trumpet for the purpose of summoning or dismissing workmen or persons employed, without the sanction of the sanitary authority, and every person offending shall be liable to a penalty

not exceeding five pounds, and to a further penalty not exceeding forty shillings for every day during which such offence continues. The act is not to extend to Scotland.—*Ex.*———*Cases of Ovariotomy.*—Dr. Washington L. Atlee, of Philadelphia, ("American Journal Medical Sciences," July, 1872,) publishes five more cases of ovariotomy. He has reported altogether 236 cases. He recently operated on a case in this city. The patient died soon afterwards.———*Accidental Irideremia.*—Dr. Julian J. Chisolm, of Baltimore, Md., ("American Journal Medical Sciences," July, 1872,) records a case of complete removal of the iris by the finger-nail of an antagonist, without any injury to the sight.———*Persecution of Male Students.*—The "Medizinische Central Zeitung" very pointedly says, that thirty young women, chiefly Russians and Poles, have inscribed in the Zurich University. They rudely seize the best seats, and crowd the poor young men at the clinics; they even smoke to such an extent that the professors complain that it makes them cough. The poor persecuted male students have therefore petitioned the Senate to stop such improprieties. These afflicted youths have our warmest sympathy.—*Medical and Surgical Reporter.*———*Female Medical Officer.*—Miss M. J. Williams, M. D., has been appointed city physician by the corporation of Springfield, Massachusetts.—*Ex.*———Cohnheim, whose researches are so well known, goes to Breslau to take the chair vacated by Professor Waldeyer.—*Ex.*———*Bloomingdale Asylum.*—So many complaints have been made in regard to this institution that Governor Hoffman has appointed a Commission to investigate its affairs. The only medical member of the Commission is Dr. Hun, of Albany.—*Ex.*———*Acquittal of Schœppe.*—The jury in this case on its second trial, after a consultation of fifteen minutes, brought in a verdict of not guilty, and the prisoner was at once discharged.—*Ex.*———*Death from Ether.*—A death has occurred at Bellevue Hospital, the result of the inhalation of ether.—*Ex.*———*University of Zurich.*—The professors of this University are unanimously opposed to the admission of further female students, and they

intend to apply to the Federal Government of Switzerland for a bill restricting the rights of studentship to males.—*Ex.*———*Improper Subjects for Lunatic Asylums.*—According to Dr. R. W. Parsons ("Journal Psychological Medicine," July, 1872,) since the year 1847, no less than one hundred and twenty-five persons who have been committed to the New York City Lunatic Asylum as insane have been discharged as improper subjects. During a single year forty persons have been discharged from American asylums as having been *not insane* at the time of admission.———Dr. O. Liebreich, to whom medicine is indebted for the discovery of the action of chloral, has been appointed ordinary Professor of Materia Medica in the University of Berlin.—*Ex.*———Dr. Brown-Séquard has resigned the Chair of Comparative and Experimental Pathology in connection with the Faculty of Medicine in Paris, which he has occupied several years. M. Vulpian has applied for the chair.—*Ex.*———*Excellent.*—The posting of the placards of quacks and quack medicines has been prohibited in the streets of Chicago. *Ex.*

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

EDITORIAL BREVITIES.

A Medical College has been established at Wilmington, N. C. It has an excellent Faculty. The beneficiary provision for students unable to pay for their education forms a feature of its organization. This feature, which secretly and practically exists, and has always existed in all medical colleges, has been publicly engrafted upon the policy of many American schools in the past two years: The University of New York; the University of Maryland; the Washington Medical College, Baltimore; the College of Physicians and Surgeons, Baltimore; the Medical College of Virginia; the Medical Colleges of North and South Car-

olina; the Louisville Medical College, Louisville, Ky., and many others. Indeed, all colleges practically and secretly adopt this policy, while many publicly do so, and provide openly and systematically for its proper protection and management. There are many medical Pharisees in and out of medical colleges who thank God that they are not as others are, but these, like their original prototype, do in secret what, publicly, they condemn. Why they should be ashamed of aiding honorable and high-toned young men who need aid, is more than can be imagined; for the extending of such aid in no wise prevents or conflicts with their charging fully those who should be so charged. Such men and their satellites are some hypocrites; some Pharisees; and some hepatic reasoners who have their livers placed where their brain should properly be found. They are insignificant and powerless; helpless to aid; helpless to injure; themselves and their opinions but imponderable elements in the great work of current history.——The friends of Dr. Warren Stone will be rejoiced to know that he is materially relieved from a disease which has so long afflicted him.——Dr. Fenner, of Memphis, Tenn., has made Louisville his home; he deserves and will receive a warm welcome.——Attention is called to the advertisement of the Surgeon-General in the previous (September) number of this Journal. Dr. Billings will be earnestly thanked for his severe, laudable and efficient labors in effecting this collection.——A third medical college has been opened in Baltimore. See its advertisement. It will certainly deplete many of the eastern schools.——It is said that Dr. John Tyndall and Sir Henry Thompson have suggested "a prayer-guage" for hospitals, with a view of derterminining whether mortality is less in those wards wherein prayers are most offered for the sick. Such silly blasphemy is indeed execrable.——Dr. Harvey is at last to have a monument to his memory. The Folkstone people have been nearly three hundred years deciding that he deserves one. They are repudiators of the old Roman aphorism, "*Bis dat, qui cito dat.*"

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ORIGINAL COMMUNICATIONS.

"Qui docet discit."

ART. I.—CHLORAL HYDRATE IN TETANUS AND TRISMUS NEONATORUM. By W. G. THOMAS, M. D., Wilmington, N. C.

I.—Fletcher Manning, aged twelve years, while recklessly walking on the parapet of a four-story brick building, in attempting to pass a chimney by holding to the bricks on top of it, loosened some of them, and fell to the ground, about forty or fifty feet below. About eight feet from the ground his right thigh struck the hand-rail to a flight of stairs; this hand-rail, made of a board six inches wide by one inch in thickness, fastened firmly to four posts, was torn away and thrown to the ground; his right leg then struck the corner of the fourth step, one-half of which was split off and thrown to the ground also; he then rolled down the lower step to the ground; the thigh was uninjured; the corner of the step produced a contused, lacerated, triangular-shaped wound on the upper portion of the lower third of the right leg, crushing the skin and the tibialis

anticus against the tibia. This occurred on the 19th of August, 1871. I saw him a few minutes after the accident; I drew the wound together with three sutures and adhesive straps, and dressed it with whiskey and water. Excepting the lower angle of the wound, which sloughed, it healed rapidly, requiring no change of treatment. The sutures came away on the 25th, and the wound was dressed with simple cerate. The patient slept well; had a good appetite and digestion, and no abnormal symptoms until the 2d of September, when he complained of soreness and stiffness of the limbs, and inability to open the mouth; these symptoms increased on the 3d, creating some alarm.

Monday, September 4th.—I was again consulted; found patient in bed, lower jaw rigidly fixed; right lower limb stiff and contracting violently on motion or touch, the patient evincing a dread of the return of the spasms; the bowels were constipated, and I ordered a saline laxative, also a mixture of—

Mucilag. Acaciæ, Syr. Zingiberi., aa. ℥ ij.;
Chloral Hydrate, ℥ j.

S. One tablespoonful to be given every three hours.

The laxative relieved the limbs, and after a few doses the chloral manifested some controlling influence over the muscular spasms. This was particularly evinced by the sleep induced at night, when no chloral was given, and the return of the tetanic spasm in the morning upon waking. During the four or five days following, the muscles of the left lower limb and abdomen became involved, with more frequent and violent spasms.

Monday September 11th.—Tetanic symptoms more general, and increased in violence and duration; ordered free application of chloroform and alcohol, in equal parts, to the spine; chloral continued; after a few days the chloroform was suspended, as no susceptible benefit from its application was observed; one-fourth of a grain of morphia was inserted into the gluteal region at bedtime; I usually select this point for insertion of morphine, because it is convenient, and as to vascularity the conditions are as favorable as in the deltoid region; the gluteal region, too, seems less liable to muscular disturbance than any

portion of the arm, and the puncture appears to give less pain; I have never known an abscess to follow an insertion here, while it has occurred in the other locality.

Thursday, September 14th—All the symptoms aggravated, with occasional slight opisthotonos; contraction of the sphincter of the bladder so decided as to produce complete retention of urine, requiring the use of the catheter for relief; same treatment continued.

Friday, September 15th.—The marked reduction of the pulse in frequency and force, a dull, heavy headache, and considerable nausea, attributable to either the chloral or morphine, induced me to substitute for the former twenty grains of bromide of potassium; nourishment persistently administered as heretofore; morphine and the use of catheter at night.

Saturday, September 16th.—All the tetanic symptoms more frequent and violent than at any other time previous; bromide suspended; chloral resumed in an increased dose during the day; morphine at bedtime and early morning.

Monday, September 18th.—Spasmodic contraction lessened in violence; retention of urine still requiring the catheter.

Monday, September 25th.—Symptoms mitigated; micturition voluntary, though with difficulty for a few days, after which the urine was voided naturally. The patient steadily improved from this time, the interval between doses of chloral being continually increased and the morphine suspended until the 5th of October, when the case was dismissed. During the treatment the patient was regularly nourished with milk, milk punch, soup, eggs, etc., the nutrition and strength being well sustained. Twelve hundred grains of chloral hydrate were administered during the attack, and with no ill effects, except on the 18th of September, when they were apprehended, not positively demonstrated, as shown by the subsequent treatment. The youth is now in perfect health, with an increase of caution sufficient, it is believed, to prevent another like reckless venture. His escape from instant death by the fall is really wonderful. This

notice makes no pretensions to anything of the kind, so far as the tetanus is concerned.

II.—Lucy Swann, aged twenty-four years, bright mulatto, in good health, gave birth to a healthy female child on the 20th of January, 1872. On the 25th the cord separated, leaving the navel inflamed and tender; it was dressed with the negro midwives' favorite application—*scorched cotton cloth.* On the 28th the child was fretful; navel protuberant and painful to the touch; it drew the breast well until the night of the 29th, when it refused to nurse, and "seemed strange, and did not cry as it had done."

February 5th.—I was consulted when the above facts were reported to me; the lower jaw was rigidly fixed a little apart from the upper, the slightest motion or touch causing violent spasms and contractions of the muscles generally; risus sardonicus was well expressed. Simple remedies had been given, and some milk and water administered with a spoon. The navel was very protuberant and inflamed, and dressed in the manner above referred to; this was removed and the benzoated oxide of zinc ointment substituted; one teaspoonful of gum mucilage of acacia containing two grains of chloral hydrate, with a little warm water, was thrown into the rectum every four hours; the bowels were kept open with castor oil when necessary; nourishment of cow's milk and water, slightly sweetened, was administered every two or three hours from a spoon; my instructions on this point were as emphatic as I could make them. After ten days the controlling influence of the chloral was very manifest, the tetanic symptoms being neither so frequent nor violent. The decided effect of the drug on the pulse was observed in this case also. It was very often as low as seventy-two in the minute, and varied from that to one hundred.

February 13th.—The rectum became slightly irritated, producing straining and some mucus in the discharges. One drop of tincture of opium was occasionally added to the chloral until this symptom disappeared. This generally was the treatment of each day until about the 20th of February, when the tetanic

symptoms were very much mitigated, and the chloral was reduced to one grain to each dose, and on the 22d the intervals were extended to six hours. The child could now take the breast, and as the supply of milk increased, the artificial food was diminished in quantity. On the 28th all treatment and the case dismissed.

I have seen a great number of cases of this form of tetanus, the *trismus neonatorum* of the books, and never before succeeded in relieving one. In my experience, as in that of all the physicians with whom I have conversed, death has heretofore been the inevitable result. I decided to use the chloral by injection into the rectum, for the purpose of avoiding disturbance of the stomach, and I am satisfied it was the safest mode for its administration. I have given only the outlines of the treatment of this case, as the remedy and its mode of administration were the only facts of importance. I offer these cases in support of those formerly reported in the journals of tetanus and trismus neonatorum successfully treated with chloral hydrate.

Art. II.—Cerebro-Spinal Meningitis. By John L. Cook, M. D., Elizabethtown, Ky.

Having been appointed at the primary meeting of the Hardin County Medical Association to read the essay upon Cerebro-Spinal Meningitis, I beg leave to first submit, in concise detail, a late case, which will serve as data for my succeeding remarks.

April 4th.—I visited M. P., female child (colored), aged five years, and found her laboring under the following symptoms: Severe pain in the head, with high fever; pulse quick and sharp; nausea and vomiting, with bowels constipated. Had chill the previous evening. Gave mercurial cathartic; ordered cold applications to the head, with five grains bromide potassium every four hours.

April 5th.—Spent a restless night; was at times delirious, and I put her on the following treatment.

℞.—Aqua, ℥ i.;
Brom. Potassa, ℈ ii.;
Tinct. Ver. Viride, gtt. x.;
Fiat Mist.

Teaspoonful every four hours, and warm water to lower extremities two or three times per diem.

April 6th.—Not so well; involuntary discharge of urine; excessive hyperæsthesia of the skin, opisthotonos, and severe pain in the abdomen and other parts of the body; skin cooler; treatment continued until evening, when she took the following:

℞.—Aqua, ℥ i.;
Brom. Potas., ℥ iv.;
Iod. Potas., grs. x.;
Fiat Mist.

Teaspoonful every six hours, and every two hours one of the powders below:

℞.—Hyd. Chlo. Mit., grs. iii.;
Opii. Pulv., grs. ii.;
Fiat Chart., No. 6.

April 7th.—Patient more tranquil through the night; treatment only varied by giving powders every four hours.

April 8th.—Partial paralysis of right arm.

April 9th.—Unable to lie on her back, by reason of arch of spine.

Substituted this prescription:

℞.—Aqua, ℥ i.;
Brom. Potas., ℈ iv.;
Iod. Potassa, grs. iv.;
Tinct. Ergot, gtt. L.;
Fiat Mist.

Teaspoonful every four hours.

One drop of the last ingredient, representing one grain of

the powders, was given to diminish the amount of blood in the spinal cord.

April 10*th.*—More inclined to stupor; pulse weak and fast; skin cool; marked depression. Not being able to say how much depended upon the potassium and ergot, and how much upon exhaustion, I suspended the remedies, using whiskey and carb. ammonia to establish reäction.

April 11*th.*—Patient improved in every respect; mind clear; no involuntary discharges.

April 12*th.*—Pneumonia in lower lobe of right lung.

April 13*th.*—Had a cold stage, followed by fever; worse.

April 14*th.*—Another chill, for which she took quinine in anti-periodic doses, half grain of calomel and quarter grain of opium, morning, noon, and night, for four days. Also bromide potassa and ergot.

From April 15th to May 5th no material change, but she then became comatose, with dilated pupils, and all active medication was suspended, and stimulants given to sustain life. Milk, with other nutritious diet, was used through the whole course of the disease.

May 23*d.*—Died.

To the medical student there is no phase of his profession which presents a more interesting study than the contemplation of the varied and unaccountable appearance of diseases which seem, after certain periods of acclimatization, to assume an epidemic character in those countries which formerly knew them not.

Among these we find Cerebro-Spinal Meningitis, the first recorded account of which was in France in the year 1310, and whose extension over Europe occupied a century or more.

The first case occurring on our own shores was in 1806, when it appeared in Massachusetts, nearly five hundred years after it had been recognized as a distinct disease. Since that time we have had occasional outbreaks of it in different localities of our own continent, when, as now, the "pestilence walketh in darkness and wasteth at noonday," creating havoc such as only

arises at the approach of a dread enemy who, clothed in the blackness of death, spareth not rank, age, sex, nor race.

Within the past few weeks the mortuary reports of the large cities within a prescribed area of our country bear witness to the prevalence of the disease over a large tract, reminding our fraternity of its gravity and the consequent demand for a serious consideration by all medical men, and I trust the reading of this paper will serve as an initiatory introduction to the discussion of the subject by each member of this Body.

Occasionally there are prodromic symptoms, consisting of headache with general malaise, but sometimes the patient is seized without any warning whatever. The attack is usually ushered in with a chill, this being true in twenty-eight of sixty-four of Ames's cases, yet, strange to say, the febrile excitement in most cases does not run very high, presenting great contrast with an ordinary coryza, which will now and then exhibit the highest grade of fever. The pulse is not very strong, being rather compressible in a majority of cases. Pain in the head is an early symptom, and scarcely ever wanting, and is in fact very prominent in all cases, causing much annoyance to the sufferer. Delirium is constantly met with, which may be of a muttering or hilarious nature, while the irritability caused by hyperæsthesia renders attendance upon the patient extremely difficult. Doubtless the sensitiveness is the result of irritation of the roots of the sensitive nerves in the cord, whilst the involvement of the roots of the motor nerves of the cord induces opisthotonos. There is inflammation of the brain and cord, as the name indicates; except in rare instances, when death results in a brief space of time, there is no exudation of lymph or evidence that such a pathological condition existed. Pus or lymph is found between the layers of the arachnoid membrane under the pia-mater in the ventricles and sulci, and often it will be detected at the base of the brain when discoverable elsewhere.

In the April number of the "Richmond and Louisville Medical Journal," a correspondent from Tehuacana, Texas, offers an

explanation why there are no proofs of inflammation if death takes place from four to fifteen hours. He says: "The poison that produces the disease acts as an irritant to the vaso-motor centre, causing contraction of the arteries and increased blood poison in the heart, thereby gradually paralyzing its action and producing passive hyperæsthesia or congestion of the lungs, stomach, liver, etc." After having discussed the etiology of brain fever, I shall offer an explanation at variance with the foregoing.

In attempting to render an explanation with regard to the causation, I am fully aware of the temerity evinced by preferring opinions which clash with those of Professor Flint, than whom a greater medical writer is not within the limits of the United States. If I mistake not, all agree that the local inflammation is only evidence of an underlying constitutional trouble. From the best information we can gather, it appears there is a blood poison circulating through the different tissues of the body which, at certain periods, lights up inflammation of the vital organs, just as in malarial districts we have pneumonia resulting from malaria. Those who have lived in marshy districts have repeatedly observed that at some seasons the prevalence of pneumonia is the consequence of the retention in the system of latent malarial poison, and in pursuance of my belief that Cerebro-Spinal Meningitis has malaria for its basis, I shall class it with the fevers that depend upon solar temperature, moisture, and vegetable decomposition for their origin; per example, intermittent fever, remittent and congestive yellow fever, cholera, etc. It is well understood that the four diseases cited differ in no particular, save form, the aggravation depending upon the malignity of the poison which enters the general circulation.

About two months, with a temperature of sixty degrees, is requisite to produce chills and fever; remittent fever being a more serions disease, of course requires a greater amount of heat, or more than sixty days, or perhaps both. Yellow fever requires a temperature of eighty degrees for two months to cre-

ate the baleful poison, and fifty-nine days would perhaps not be sufficient to generate the malaria which causes the fever.

Following in the wake of such observations comes, of course, the conclusion, that time only would be necessary for a student of such points to be able to predict, as with the gift of prophecy, what form of disease was likely to descend upon a community whose surroundings furnished the requisites for its creation. And the sanitary officer could sit noting the changes of his thermometer, and, from the union of heat, moisture, and vegetable decomposition, confidently issue his bulletins, whose predictions of disease would be as unerring as if foretold by a more powerful authority than his agents, mercury and skill.

A few years past such expressions might have excited surprise, but living, as we do, in an age of progress, coëval with other advancements of the age, we are not astonished by any of the developments of a science whose pursuit is the study of Nature's grandest handiwork.

I hold that any form of malaria may for an indefinite period remain latent in the blood, finally to betray itself in one of the many guises; as, for instance, a man may receive the poison in the Fall, it remaining latent in the system for months, because of not sufficient virulence to produce immediate disturbance, though really being the germ of future intermittent fever or cerebro-spinal meningitis.

It is said that cerebro-spinal fever is more prevalent in the Spring than any other season, but ordinary ague is very frequently observed about the same period, and of course the inception of the malaria took place in the Fall.

There are on record many cases proving that persons contracted non-contagious fevers in one locality, and, removing to another, took a disease not indigenous to that place.

While practicing in Bullitt county, I encountered many cases of pneumonia in winter, which were beyond doubt dependent upon malaria. It would be scarcely proper to say the subtle poison was imbibed just prior to the attack. I refer to these facts as bearing upon the disease under present consideration.

If what I have said with regard to the subject be true, it would not be irrational to suppose that "brain fever," as it is popularly called, has a similar origin, and may develop itself at any time of the year.

The patient to whom I, in the beginning, referred, lived on a creek, where autumnal fevers are usually rife. There is one error prevailing to a considerable extent not only among the people, but with many physicians—viz., that in the Fall, when the nights begin to grow cool, there is increased danger of chills.

Instead of accepting such a theory as a truth, I think a more reasonable solution is, that sufficient time has elapsed for the thorough development of the malady by the time the sun crosses the equinoctial line. I am utterly unable to say why there are periods when malaria is more inclined to attack the brain and cord than at other times. But all admit that there are times that all diseases have a tendency to involve internal organs, perhaps this year the lungs, next the bowels, then the brain, and so on seriatim. Again, special diseases have a special affinity for various parts. Thus, remittent fever implicates the stomach, typhoid fever Peyer's glands, rubeola the schneiderian membrane, etc. Thus much we know without being able to assign any tenable reason; just so with cerebro-spinal fever. But after all, in the last mentioned, it is the local trouble that destroys life, and it is to this, after the first stage has passed, that remedies should be directed.

With the best medical attention at least seventy per cent. die, mortality undoubtedly being enhanced because the brain and cord are embraced in bony walls, and when exudation takes place, the parts cannot distend as others do, and the tissues themselves are so much injured that death is inevitable, whereas, if structures in less important parts were more diseased, recovery would take place in a great majority of cases. We are fully aware that laryngitis or œdema of the glottis derive their danger from location, and not intensity. I think it would be a simplification to divide spotted fever into three stages: First period of congestion, depression; second, when reäction takes

place, or if there has not been marked depression in its incipiency, excitement; third, depression, which we witness if the disease marches on to exhaustion or coma. So we would say depression, excitement, depression.

Now in reference to treatment, the first stage of this and all fevers, the chill or congestion evidently lowers the vital powers, many even succumbing before the system can rally by itself or by the assistance of artificial aid. It is during the second stage, excitement, that immediate fears of death are removed; then we will find the pulse a little fuller, temperature normal, or running up to 102 or 104, accompanied by a general excitement of the whole frame. The condition varies in duration. In a few cases the symptoms are ameliorated, the patient slowly recovering; but if improvement does not take place, the victim passes into the last stage, gradually sinking from asthenia or profound stupor.

Now I shall attempt to render an explanation why autopsy fails to disclose anatomical changes in some cases. The correspondent from Texas, to whom allusion has been made, gave a very ingenious interpretation. From the position already assumed regarding the three stages, I think we can account for the absence of any visible inflammation. If one were to die in the first stage or congestion, it would be expected to find the same condition as looked for in one who had died of congestive chill. And such is the result, congestion of the lung, stomach, and liver, may be the brain. Why are there no evidences of inflammation in either case? Because the patient died before such results took place. Who can tell the collapse of pernicious intermittent fever from that of cholera or cerebro-spinal meningitis? No one. They are the same. And for what do we look after the first stage has passed? Why, inflammation of the brain and cord with reäction, and this is the next reef which we must endeavor to pass, and that is dependent upon bold effort; active medication must here be resorted to. If the second passes into the third stage, not much reliance can be had on medicine, but sustenance must be given the sinking powers

of nature. Of course, every case may not be so plain as I have made it; the first stage probably being so slight as to attract but little attention or even to pass unnoticed, when the physician calls he would find the patient in the second stage, which would soon be merged in the third and final one. Next in order is the treatment. The plan to be adopted hinges upon the stage of the disease. During the first, stimulants would be demanded; ammonia, with other arterial stimulants, would be preferable, they being less likely to unduly excite the brain when reäction did take place. Pediluvia, or mustard cataplasms to the extremities would prove valuable adjuvants; should these fail, alcoholic stimulants become necessary. When reäction is established, we should combat the local inflammation. The first question arising for solution is, will quinine in anti-periodic doses accomplish good? Under some circumstances it doubtless would be proper to give twenty or thirty grains of quinine to destroy malarial influence.

Sufficient should be given for that end, then suspended, for repetition could not be beneficial, and might prove injurious. So far as the fever was influenced by malaria, quinia would be of benefit, but ineffectual in directly subduing the fever resulting from hyperæsthesia of the cerebro-spinal system. In the second stage, the treatment required is in direct opposition to the first. Sedatives must be used, and it might be proper to bleed if the inflammatory fever ran very high. In milder forms tartar-emetic and veratrum viride would answer all the indications. The bowels should be unloaded by mercurial cathartics. But above all, those medicines should be administered which directly diminish the amount of blood in the brain and cord. Bromide of potassium or sodium, and ergot combine those two qualities; belladonna, conium, chloroform, etc., belong to the group, and might be tried as succeedanea.

Professor Hammond has largely experimented upon the subject, and he has demonstrated the above facts. Ice to head and spine are invaluable aids. When the disease reaches the third stage, all active medication should cease, no narcotics should be

given, and the sustaining plan should be adopted, as in the first stage. If the patient survives the first few days, the ordinary mode of death is by asthenia. To counteract this tendency, stimulants and milk are chiefly our dependence. Possibly some one may inquire as to the use of calomel. There has been great discrepancy regarding its use in the last ten years. Willing to give the patient the benefit of all chances, I would use it combined with opii., which I consider one of the most powerful antiphlogistics. It is a maxim worthy of endorsement, that it ill becomes us of younger years to ignore the opinion of Nestors of the American Medical Profession, who have grown gray in the practice as well as in scientific research.

After writing this essay, I have received the June number of the "Richmond and Louisville Medical Journal," which contains two excellent articles upon cerebro-spinal meningitis. Until it came to hand, I was unaware that ergot had been used; from it we also learn of a new remedy—calabar bean, which has the power of suspending muscular contraction and so relieving opisthotonos. As for prophylaxis, if my position be true as to the etiology, nothing would equal quinia given in small doses three times per day as a preventive.

ART. III.—THE ENTIRE PENIS ENTIRELY DENUDED, AND NEARLY HALF OF THE SCROTUM CUT OFF IN CIRCUMCISION. By PAUL F. EVE, M. D., Nashville, Tenn.

August 13th, was hastily called to see an infant said to be mutilated in the act of circumcision. The officiating priest, a worthy gentleman of some fifty-five summers, stated this to be his first unpleasantness in twenty-four years' practice. Having circumcised a case a few days ago, he had forgotten his knife, which has a double edge, and is about four inches long; in using it to-day he neglected to see if it was in order to operate. Seizing the projecting foreskin, he drew the instrument over the prepuce in front of the glans. From some cause, probably

the edge of the knife not being sharp enough, the parts slipped from his grasp; and it may be, the operator becoming excited, as a large number were present at the ceremony, or his sight being impaired, he unfortunately seized, between the thumb and index finger, the scrotum with the prepuce, and cut off all embraced between his fingers.

When I arrived the hæmorrhage had ceased, the penis found totally denuded, and the scrotum divided deeply on both sides, exposing the testicles, making a flap crescent-like on the raphe. The first step at reparation was to bring the integuments loosely around the root of the male organ of generation and secure them by a silver suture, and in the next stitch was included the central point of the scrotal flap. The exposed portions over the testes were next closed by two additional sutures on one, and three on the other side, making in all seven in this little patient of seven days old. The skin over the pubis might, like a sheath, have been brought forward upon the penis, but the danger of confining it upon that organ, except at the risk of interrupting its circulation, made this an insuperable objection. After bathing therefore the parts with water and applying a soft oiled rag to them, secured by the diaper, the child, much exhausted, was committed to its mother and nurse.

There was nothing special in the after-treatment. Union by adhesion throughout did not take place, due undoubtedly to excretions from the rectum and bladder, but by the ninth day the now blackened silver stitches were removed, and the case dismissed nearly well. When not excited, as in the act of micturition, the skin around the penis formed already a ring of a few lines, which will continue to extend and improve its appearance, it is hoped.

ART. IV.—OBSERVATIONS ON CEREBRO-SPINAL MENINGITIS.

By A. G. MABRY, M. D., Selma, Ala.

I do not propose on this occasion to write an essay on Cerebro-

Spinal Meningitis, but the articles upon this subject in the June number of this Journal so forcibly remind me of some incidents in my experience with the disease, that I am induced to make a brief statement of some facts which have fallen under my notice and the conclusions to which I have been led, hoping that they may prove of some interest to the readers of the Journal.

I have been led to a very different conclusion on some points from such as are entertained by the writers of the articles referred to. In the tabular summary by Stillé, as quoted by one of those writers, Cerebro-Spinal Meningitis is pronounced, "a pandemic disease, occurring in places remote from one another and without intercommunication. Attacking all classes of society. Is never primarily developed by squalor and deficient ventilation. Is not contagious. More males than females are attacked." It is certainly true that no age, sex, or condition can claim exemption from attacks of the disease, but I am not prepared to say that one sex is more liable than the other; on the contrary, my experience convinces me that both are equally liable. I admit that sporadic cases do occur in the well-provided and luxurious apartments of the rich, as well as in the hovels of the poor; but this is seldom the case, and when it does invade the comfortable and well-ventilated apartments of the better classes of society, it never assumes an epidemic or an endemic form, and is not, under such circumstances, contagious, and does not generate infection.

When, however, it gets a start in the crowded, ill ventilated, and filthy hovels of the poor, it is very sure to become at least endemic, and to engender a miasm which is capable of reproducing the disease in such as may come within the limits of its influence. So far from its never being produced primarily by "squalor and deficient ventilation," my own experience has thoroughly convinced me that these are the most fruitful sources of its origin. It certainly is so here. In this section of Alabama, where there is a large black population, it has, since the termination of the war, been very prevalent and very fatal, but

chiefly confined to that class whose apartments, it is well known, are small, ill ventilated, crowded, and not by any means well "policed." Presenting the very conditions or combination of circumstances which would seem best calculated to favor the production of the disease, according to the views entertained by me, which experience seems clearly to sustain.

Four miles below this city, on the Alabama river, is a large plantation, long the property of the late Hon. William R. King. On the 1st of February, 1856, there were seventy-five negroes residing on this plantation. The cabins in which they resided were arranged so as to occupy three sides of a parallelogram; the longest line being about four hundred yards in length, and the shortest about three hundred.

The distance between the cabins averaged about forty feet. The vacant line of this figure, one of the short lines, rested immediately on the river bluff, and the whole place was densely shaded by evergreen oaks. The cabins were already filled, perhaps to the full extent of their convenient capacity, but the occupants had generally been very healthy during the winter. About this time the late Wm. T. King, to whom this property had been bequeathed, shipped on board a steamboat, at a plantation on the Black Warrior river, near Tuscaloosa, seventy-five other negroes, and took them down to Mobile, where they were re-shipped and conveyed to the plantation on the Alabama.

Separate quarters had not been provided for this accession of numbers, and they were, of necessity, crowded in with the former occupants. One of the women, when removed from the boat, was sick with influenza. She was placed in a cabin occupied by her sister, the first on the south line immediately on the river bluff, and the most remote but one from the rest. I visited her next day, and found her with high fever, a very frequent pulse, a most distressing cough, some pharyngitis, but no pneumonic symptoms. The sputum, abundant in quantity, was of a snowy-white frothy character. If there were any nervous symptoms present, they were not sufficiently prominent to attract my attention. This case proved to be obstinate, but

ultimately recovered, and before convalescence was established, the sister, who had been engaged in nursing the patient, was seized with a very severe attack of pneumonia, of which she died in something less than a week. There were some indications of a typhoid condition present in this case. From this time the disease extended rapidly over the quarter. So rapidly did it extend itself, and so general did it become, that I soon had as many as forty cases under treatment at the same time. At first there never failed to be some pulmonic complications present. Sometimes the inflammation was confined to the throat; at others, it extended to the bronchial mucous membrane; and again, in others it involved the pulmonary parenchyma. But as the disease progressed the cerebro-spinal symptoms became more and more prominent, and soon constituted the characteristic feature of the disease. The attacks were indiscriminate. The liability seemed no less among the former residents than among those who had recently arrived. Out of the one hundred and fifty negroes on the place, twenty escaped an attack, but there were twenty relapses, so there were one hundred and fifty cases; none of which were mild. But one post-mortem examination was made, and that was not thorough, but the evidence of meningeal inflammation revealed was unmistakable. The disease extended itself to two neighboring plantations, with which there had long been frequent inter-communication, which, to some extent, was continued, notwithstanding the efforts that were made to arrest it. But on these places it was limited to a few cases on each; perhaps to such persons as had visited the infected place. Here we find "crowded apartments, deficient ventilation, and squalor" conditions, or circumstances which, according to Dr. Stillé and the "Buffalo Medical Journal," have no agency in producing the disease.

But it is impossible for me to resist the conviction that the disease in this instance originated on the steamboat; that it was produced by the confining together in a limited space, without sufficient ventilation, that large number of persons, and when the first case was removed from the boat at the plantation on

the Alabama river, exactly that combination of circumstances best calculated not only to produce the disease, but to maintain its existence, was found there. But it may be objected that the first case was influenza and not meningitis. To me it was a question of interest whether this case represented a distinct type of disease, or was a modified form of the disease which became so prevalent afterwards, and which was unmistakably cerebro-spinal meningitis. I was not long in being convinced that the latter supposition furnished the true solution of the question.

It is true that isolated cases are sometimes so dissimilar in appearance that no one who had not had his attention specially directed to the question of identity would be likely to suspect it. Two years ago I attended two sporadic cases, husband and wife, which seemed corroborative of my conclusions. The husband was first affected; he had sore throat, some increased heat of surface, a very frequent pulse, a harassing cough, white frothy expectoration, some disturbance of respiration, and facial and cranial neuralgia. I did not at first suspect this case to be anything more than a "severe cold"; but about the time that convalesence was fully established, the wife was seized with the same train of symptoms, but the neuralgia was much more distressing; it invaded the interior of the ear, from which she suffered greatly, and after continuing on the right side of the face and head a few days, it suddenly changed over to the other side. When the neuralgia began to subside there was a distressing pain established in the left shoulder and right hip, which assimilated rheumatism; then came hyperæsthesia and rigidity of the extensor muscles. At 4 o'clock one afternoon she complained of pain in the right eye, but there was no appearance of disease. At my visit the next morning at 10, there was complete opacity of the cornea, and a perceptible reduction in the size of the globe. She died in a comatose state. In the beginning the same train of symptoms was present in each case, but considerably exaggerated in severity in the second. As the second case progressed, however, those grave symptoms, which, according to the general understanding of the subject, con-

stitute cerebro-spinal meningitis, were superadded. But they originated under precisely the same circumstances, and I am irresistibly forced to the conclusion that they were different forms of one and the same disease. There was no deficient ventilation, or squalor, or any other circumstance present that would enable us to account for the origin of these cases, as was the case in the endemic in question, and no other case occurred in the family. It is not uncommon for one or more cases answering the description of this first case to occur in families or neighborhoods, and, being regarded as nothing more than "severe colds," pass off without attracting much notice, and at the same time cases answering the description of the second one may occur, and when they do, they are pronounced cerebro-spinal meningitis, but no connection between these apparently different classes of cases is suspected. Having had my attention directed to this question of identity during the existence of this endemic, it has to me been a subject of interest ever since, and in my subsequent experience I have not observed cerebro-spinal meningitis without also having my attention directed to the existence of influenza, or "severe cold." Sometimes the latter seems to precede the former for a short time, while at others they seem to appear simultaneously. If the symptoms present in this first case be considered with care, I think there will be no difficulty in discovering the difference between them and such as are present in cases of ordinary catarrh.

If facts were necessary, other than these mentioned, to prove that "deficient ventilation and squalor" are the most fruitful sources from which this most formidable disease derives its origin, it would be easy to increase them to an almost unlimited extent. As I stated at the outset that I did not propose to write an essay on cerebro-spinal meningitis, I might very properly spare myself the trouble of saying anything concerning treatment; but supposing that, to practical men, this subject would be quite as interesting as any theoretical discussion upon the question of the origin of the disease, I have concluded

to state briefly the general course of treatment adopted by me in the management of the cases which occurred in this endemic.

In the management of these cases everything like depletion was carefully avoided, and whilst it was not necessary to resort to stimulants often, yet they were used whenever the condition of the patient seemed to require them. Blisters were applied, without fail, to the occipito-cervical junction, and not unfrequently extended eight or ten inches down the spine. They were also always applied to the chest when pulmonary complications were present. Frequent applications of cold water were made to the head, and the feet were as frequently as practicable immersed in hot stimulating baths. It was my uniform practice to prescribe quinine. It was continued two days, to the extent of ten to thirty grains, according to the age and condition of the patient each day. This was prescribed with the view of counteracting the malarious influence presumed to be present, as these patients had long resided in localities known to be intensely malarious. What influence it may have had as a sedative over the inflammatory condition of the system, I do not pretend even to conjecture. Calomel and Dover's powders were invariably prescribed; they were given in four-grain doses of each every three hours; the dose, of course, varied according to the age of the patient, and it was continued from day to day according to circumstances. These remedies were given with the hope of securing their sedative and alterative effect, and not with special reference to ptyalism, but when this did occur, evidences of amendment speedily followed.

The beneficial effect was so strikingly apparent that the attendants noticed it. Sometimes, at my morning visit, I would be met by one of them with the exclamation—such a one, for whose safety it was known that I felt great anxiety, "is better!" Why do you think so? "The gums are sore." And so it would turn out.

When the calomel did not keep the bowels sufficiently open, a mild aperient was given, and in addition to the Dover's pow-

der, morphia was given when necessary to produce ease and quietude. When the severity of the cough required an expectorant, a teaspoonful of a mixture consisting of equal parts of the tincture of lobelia, syrup of squills, and mucilage of gum acac., in a wine glass of flaxseed tea or cold water, was given. The lobelia I regarded as a valuable sedative expectorant, but in some of the cases it was necessary to suspend its use, on account of its depressing influence. I have mentioned in detail the remedies resorted to in this formidable endemic, and have given a faithful account of the general course of treatment; and now for the result.

This I state with some degree of hesitation, inasmuch as I feel that there is a possibility of its being received with incredulity; but as I have said so much upon the general subject, it is proper that I should "tell the whole truth." I have already said that none of the cases were mild; this is true, all were severe, and none free from danger. Nine cases out of the one hundred and fifty resulted fatally; a most extraordinary success it must be conceded.

Of the number that died, one was a man above seventy years of age, an epileptic; one was about two years old, and one about eight. The rest ranged from eighteen to forty-five. Three were females. After the first case the treatment always commenced within the first twenty-four hours after the seizure, and many within the first twelve. They were carefully nursed, and, as far as possible, supplied with everything necessary to their comfort and well being. To these circumstances must be attributed much of the success that attended the treatment.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—HYDRATE OF CHLORAL IN TRAUMATIC TETANUS. By JOSEPH B. BECK, M. D., Fort Wayne, Ind.

All new remedies run the gauntlet of therapeutic application between two lines of the Profession; on the one side its friends and enthusiastic admirers, who are disposed to set forth numerous cases of endless variety, which shall, however, only redound to its praise; and, on the other side, captious critics, who will yield nothing, and demand the proof of every single statement made by "the party of the first part." Hydrate of chloral, being the newest remedy of moment, has not escaped this trial, and it has the preëminent virtue, if virtue it may be called, of having been and still being at once the most praised and best abused remedy in the whole *armamentarium medicum et chirurgicum.*

The truth of this remark will be patent to every observer of medical literature during the past three years, and it is really wonderful how much of literary effort and therapeutic observation has been and is yet being bestowed upon this agent. If the amount of manuscript and printed matter on this subject could be presented to us in one aggregation, it would be positively appalling to a practitioner of little leisure. Nevertheless, it is from such huge masses of manuscript matter that we will eventually succeed in extracting the precious and precise truth, which will place hydrate of chloral on that particular therapeutic eminence, which seems to have been kept vacant so long for its arrival.

It is very proper, therefore, that each individual member of the Profession should regard it his bounden duty to contribute his mite of information to the general fund, and thus assist, as far as in him lies, to bring order from the present somewhat chaotic state of affairs with regard to chloral. Following up

this special plea and showing faith by works, I desire to place upon record a case of genuine traumatic tetanus, *occurring within the traditional nine days from the receipt of the injury*, cured wholly and solely by the use of hydrate of chloral. Prior to engaging in the description of the case, however, I desire to remark that I am by no means to be classed among the enthusiasts on this subject, and neither am I a skeptic, but propose to remain on the broad level of a happy mean between the two.

On the 5th of January, 1872, I was sent for to see one William H. H., a railroad employé, whom I found in a tetanic convulsion when I arrived. The history of the case, as gathered from the wife of the patient first, and subsequently confirmed by the patient himself, was briefly this: In the forenoon of December 29, 1871, while engaged in coupling cars, he had the fore and middle fingers of his right hand mashed from the nail to the middle of the first phalanx. The fingers were amputated by Drs. M. and T., and the patient felt well for some three days, when he first noticed that the stumps were not healing as they should, and also that every now and then he could feel more or less stiffness about his jaws. This, together with a serious objection on his part to being out in the open air, or sitting in a draft when in the house, wore upon the patient; and all the symptoms continued to manifest themselves in gradually increasing moment, until the morning of the 5th of January, when the matter culminated in a severe attack of traumatic tetanus.

The second spasm which he had had that morning was just at its culminating point when I arrived at the house, at about 9 o'clock A. M. I found the patient lying on the floor, where he had fallen from a chair at the commencement of the spasm, about half an hour before. He was a man of medium height, but of remarkable muscular development; a perfect blonde in appearance ordinarily, but at this time with his skin of a livid hue. He lay on his back, with perfectly developed opisthotonos, the only points touching the floor being the back of his head and his heels, and his body forming an arch like a

bow. His breathing was stertorous, and at each expiration he blew from his mouth a firm, tenacious mucus, which was perfectly clear, but which gave him great annoyance. The mouth had that peculiar sad smile so often noticed in these cases, and the eyes their peculiar horrible stare; but the patient's mind was perfectly clear. Diagnosis at once, traumatic tetanus. I permitted him to remain as he was until the spasm passed off, when he told me, in the way that the trismus would permit, that he suffered no pain at all during the seizures, and was able to tell some minutes before when the spasm would again occur. He was now removed to bed, but had been scarcely placed therein until another spasm came on, which was much more severe and lasted longer than the other. This made the third that he had had that morning. The jaws were firmly locked the whole time, but deglutition, although difficult, was not impossible.

I now went for Dr. M., his family physician, and to get some preparation of calabar bean. Succeeding in finding Dr. M., I failed to find a preparation of the physostigma anywhere in the city, except a specimen of the solid extract, very old, and in all probability utterly worthless. Not being willing to wait until a preparation suitable for exhibition could be procured and thus lose twenty-four hours of exceedingly valuable time, I suggested to Dr. M. the propriety of giving the hydrate of chloral at once, and in such immense doses that it could not fail to have some sort of effect, *one way or the other.* We then, it being fifteen minutes after ten in the morning, commenced giving the chloral in doses of sixty grains, with orders to repeat the dose every half hour, until the spasm relaxed, or the patient was overwhelmed by sleep. He took seven doses, of sixty grains each, before being entirely or completely overcome, but when sleep *did* relieve him, and the spasm began to relax, he slept in earnest, and without once awaking or stirring from his position in bed until six o'clock in the evening of the following day.

I saw him about half an hour after he awoke, and he said he

felt as well as ever, with the exception of much muscular soreness in the spinal region and that of the backs of the thighs and legs, and some stiffness of the jaws. He had no subsequent spasm, and no further treatment was ordered for him. The slight stiffness wore off in two or three days; the after-effects of the chloral were *nil;* the wounds healed up rapidly; and to this day he has experienced no bad effects from his heroic treatment. He took four hundred and twenty grains of chloral in just three and a half hours.

It will, in my estimation, be very appropriate to conjoin with this description a short summary of those cases of traumatic tetanus which were treated either wholly by chloral or in which the hydrate formed the base of the treatment, although other remedies were used in connection with it. The summary will give us a statistical page at any rate. It contains all the cases which happen to be within my reach at this time.

CASE I.—Dr. W. B. Cluness* reports this case. The disease was at first thought to be idiopathic, the symptoms having occurred shortly after the patient, who was perspiring and exhausted at the time, had taken a cold bath; but, upon careful examination, a ragged-looking sore was found upon the third finger of the left hand, which sore was fully an inch in length. After the patient had taken his third dose of eight grains each of chloral, "the spasmodic contractions had, for a brief period, nearly ceased, and the tonic rigidity of the whole muscular system became perceptibly relaxed." Sleep was also produced by it, and the pulse fell from 128 to 88. The symptoms indeed returned, but were again relieved; the disease seemed to be easily controlled by the remedy, and the patient made a good recovery.

CASE II.—This was a severe case reported to the Imperial Society of Surgery by M. Verneuil,† who, in reporting the case, called attention to the important fact brought into notice

* Pacific Medical and Surgical Journal, April, 1871.

† L'Union Medicale, May, 1870,

by it—namely, that chloral has undoubted powers of arresting contractions of the extensor muscles. He believed, however, that it failed to do good in those cases where the respiratory muscles were involved, because the remedy did not succeed in arresting the contractions in these muscles. He thinks that chloral will be most efficacious when conjoined in these cases with the continuous electric current, which possesses the positive power of arresting the spasm of the respiratory muscles, and thus preventing asphyxia. This case recovered.

CASES III. AND IV.—These two cases were reported to the Society by MM. Dubreuil, Lavaux, and Onimus,* and were fully as severe as the preceding. These were treated upon the principle of conjoining electricity with chloral as above, and were both cured.

CASE V.—This case was communicated to the same Society by Dr. Dufour,† Assistant Physician to the Ophthalmic Hospital at Lausanne. The treatment was chloral, and this case was successful also in recovering.

CASES VI. AND VII.—These were two cases reported to the same Society, one occurring in the practice of M. Guyon,‡ and the other in that of M. Le Fort.§ Chloral was used alike in both these cases, and in both cases it was used unsuccessfully, as both patients died. M. Guyon stated, however, that each time it was given to his patient it afforded him relief and produced sleep. The relief, however, was only temporary, as the result proved.

CASE VIII.—This was a case reported by Mr. Tay,‖ Assistant Surgeon to the London Hospital, which occurred in a woman forty years of age, and which was treated by chloral and treated unsuccessfully; although life was evidently prolonged by its use, and it certainly produced definite effects. It was given in this case in doses of one drachm by the mouth and two drachms

* L'Union Medicale, May, 1870.
† Ibid. ‡ Ibid. § Ibid.
‖ British Medical Journal, April, 1870.

by the rectum. It relieved the patient from impending asphyxia caused by the tetanic spasm, and caused sleep with calmness and muscular relaxation, but death eventually took place.

CASE IX.—This was a case in a boy eighteen years of age, reported by Mr. E. R. Denton,* which resulted favorably under this treatment. In this instance, however, the chloral was assisted, or at all events its action was to some extent merged into that of belladonna and bromide of potassium, which Mr. Denton tells us he also used.

CASE X.—Dr. Thomas G. Duncan† reports this case, in which he was successful, but he made use of a combined treatment of chloral and calabar bean. He believes that both remedies contributed equally to the result, the calabar bean by its power of producing muscular relaxation, and the hydrate of chloral by its properties as a calmative and alleviator of convulsions.

CASE XI.—This was a case in which the same remedies were used which proved successful in case X., but with an unfavorable result this time. It is reported by Dr. Preston Peter.‡ The remedies relieved this case for a time, but it finally died.

CASE XII.—Reported by John W. Ogle, M. D.§ This case received what we may call a mixed treatment, Dr. Ogle having used ice to the spine, and belladonna in conjunction with chloral, with a successful result.

CASE XIII.—This was a case reported to the London Clinical Society by Mr. Croft,|| in commenting upon which he said that he had treated a very severe case in this instance, and had used hydrate of chloral and nothing else; and to show that its influence in the case was decided, its exhibition was intermitted for twelve hours, during which intermission the patient became much worse. The case was under active treatment twenty-one days, and was discharged cured.

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* British Medical Journal, April, 1870.

† American Practitioner, August, 1870.

‡ American Practitioner, September, 1870.

§ London Lancet, October 22, 1870, Abstract of paper in.

|| Medical Times and Gazette, October 22, 1870.

CASE XIV.—A case reported by Mr. Paget,* who treated it by the exhibition of chloral in large doses. He stated that the remedy comforted the patient, but did the disease no good, inasmuch as the patient died all the same. He also remarked that he thought no one had ever treated six cases of traumatic tetanus successfully by any one method or plan of treatment.

CASE XV.—Reported by Dr. J. Suydam Knox.† In this case Dr. Knox administered the chloral in doses of thirty grains every four hours, the patient being seventeen years old. The treatment of the patient commenced on the 10th of July, and on the 20th he was discharged. Dr. Knox states that "the chloral promptly controlled the spasms and induced sleep. At the end of four days it was administered only night and morning."

CASES XVI. TO XXII. INCLUSIVE.—These seven cases reported by Mr. C. Macnamara‡ were a portion of ten cases treated by him since the 1st of September, 1870, in the Chandnie Hospital, by the use of chloral alone. Of these seven cases, selected because of their traumatic origin, six died, and but one recovered. Mr. Macnamara states that "the quantity administered varied from forty to one hundred and sixty grains per diem, according to the severity of the symptoms and the age of the patient; but after a little experience of the effects of chloral, it seemed to me that it had no specific influence over the tetanic spasms; nevertheless, there can be no doubt that even in the most severe cases of tetanus this drug has the power of sending the patient off into a deep sleep, and thus for the time being preventing the tetanic spasms; but in severe instances it appeared as if the hydrate of chloral, by thus keeping back the tetanic energy, rendered it more concentrated—after deep sleep from chloral the spams sometimes returning with such terrible violence as speedily to destroy the patient. Of the ten cases

* Medical Times and Gazette, October 22, 1870.

† Amer. Journal of the Med. Sciences, vol. 62, p. 428.

‡ American Practitioner' September, 1871.

treated exclusively with chloral, seven were instances of traumatic tetanus, and only one of these recovered."

It will be well to add in this connection, and just at this point, in closing the statistical portion of this article, some facts concerning the treatment of tetanus in the very young. I believe the theory now generally accepted with regard to this class of cases is, that a majority of them have a traumatic origin, and hence they properly come to be considered under this head. Here I again have recourse to statistics, and propose to continue the enumeration of the cases in the regular order as above.

CASES XXIII. AND XXIV.—These are two cases of tetanus reported by M. Garnies,* one in a child only seven days old, and the other in a child thirteen years of age. In the former, chloral was dissolved in the milk of the mother and injected into the child's nose during the paroxysm. In this way twenty-five grammes were given, and the child was pronounced cured on the ninth day. In the latter case four grammes of chloral were given at a dose, with the effect of producing a marked amelioration of all the symptoms, and the case was discharged completely cured on the thirty-fifth day, and after one hundred and eighty grammes of the drug had been taken.

CASES XXV. TO XXXIV. INCLUSIVE.—Dr. Widerhofer† recently presented to his class at the Children's Hospital, Vienna, a child of three months old, which was attacked by tetanus neonatorum at the end of the first week after birth, and was treated with hydrate of chloral in doses of one and two grains at the onset of each paroxysm. It was in a dangerous condition for fourteen days, but is now a fine, healthy-looking child. In the interval between the paroxysms it was fed from the breast. *This is the sixth case out of ten that Dr. Widerhofer has had to recover under the chloral treatment. Under all other modes of treatment all his previous cases died.* Dr. Widerhofer gives the

* L'Union Medicale, September 24th, 1871.

† London Lancet, March 18th, 1871.

chloral by the rectum when the infant cannot take it by the mouth, and increases the dose from two to four grains.

CASE XXXV.—This case is reported by Dr. F. Auchenthaler,* who states that it occurred in an infant seven days old, and was treated by hydrate of chloral in doses of six grains, dissolved in the mother's milk. During the paroxysms the medicine was carefully instilled through one of the child's nostrils. Immediate benefit was the result, and in nine days the disease had entirely disappeared. During this attack the child had twenty-seven tonic paroxysms, and had taken twenty-five grains of the hydrate of chloral.

This closes the summary of cases, and we now recapitulate.

NO.	REPORTED BY	MODE OF TREATMENT.	Whole No.	Died.	Recovered.
1	W. B. Cluness	Chloral alone	1		1
2	M. Verneuil	Chloral alone	1		1
3 } 4	MM. Dubreuil, Lavaux, and Onimus	Chloral and continuous current.	2		2
5	Dr. Dufour	Chloral alone	1		1
6	M. Guyon	Chloral alone	1	1	
7	M. Le Fort	Chloral alone	1	1	
8	Mr. Tray	Chloral alone	1	1	
9	E. R. Denton	Chloral, belladonna, and potas. bromid	1		1
10	Thomas G. Duncan	Chloral and calabar bean	1		1
11	Preston Peter	Chloral and calabar bean	1	1	
12	John W. Ogle	Chloral, belladonna, and ice to spine	1		1
13	Mr. Croft	Chloral alone	1		1
14	Mr. Paget	Chloral alone	1	1	
15	J. Suydam Knox	Chloral alone	1		1
16 to 22	C. Macnamara	Chloral alone	7	6	1
23 24	M. Garnies	Chloral alone	2		2
25 to 34	Dr. Widerhofer	Chloral alone	10	4	6
35	F. Auchenthaler	Chloral alone	1		1
36	My own case	Chloral alone	1		1
	TOTALS.		36	15	21

* Fahrbuch fur Kinderheilkunde, N. F. iv.

In concluding this article, I do not deem it amiss to introduce a remark upon each branch of the subject, coming as they do from authority; and first as to chloral: Dr. O. Liebreich* states, that while different surgeons had recently made trial of the curative value of the hydrate of chloral in cases of trismus, without any favorable result, he has in some recent cases, by the use of 3-5 grammes of the article, succeeded in causing an entire relaxation of the affected muscles. A theoretical deduction leads Dr. Liebreich to conclude that chloral does not act by removing the cause of tetanus, but simply by counteracting its effects, and its use must therefore be persisted in so long as the muscular spasm continues to recur.

Secondly as to tetanus. I introduce under this head some conclusions by Dr. D. W. Yandell,† as follows:

First. That traumatic tetanus occurs in males in the proportion of four to one, and tends to recovery oftenest in females.

Second. That tetanus is most fatal in persons under ten years of age; that it is least fatal between ten and twenty.

Third. That traumatic tetanus usually supervenes between four and nine days after the injury, and these cases represent the largest mortality.

Fourth. Recoveries from traumatic tetanus have been usually in cases in which the disease occurs subsequent to nine days after the injury.

Fifth. When the symptoms last fourteen days, recovery is the rule and death the exception, *apparently independent of the treatment.*

Sixth. Of all the forms of tetanus, that appearing in the puerperal state is the most fatal.

Seventh. That chloroform, up to this time, has yielded the largest percentage of cures in acute tetanus.

Eighth. The true test of a remedy for tetanus is its influence on the history of the disease. (*a*) Does it cure cases in which

* Berliner Wochenschrift, No. 43, 1870.

† American Practitioner.

the disease has set in previous to the ninth day? (*b*) Does it fail in cases whose duration exceeds fourteen days?

Ninth. That no agent, tried by these tests, has yet established its claims as a true remedy for tetanus.

I do not propose to discuss any of these conclusions in this article, inasmuch as the statistics at this time at the command of the Profession are too meagre as to all other remedies than the calabar bean and hydrate of chloral, and are too recent to admit of a true estimate of the latter. We may be able in time to collect more evidence upon the effects of chloral in tetanus, and while awaiting further developments, we desire to put this compilation in a form and place where it may hereafter become useful. As far, however, as the statistics contained in this article will carry us, I believe that the remedy discussed makes a very favorable exhibit, and in my own estimation I am disposed to give it the preference over any and all other remedies in this disease. Perhaps, under a peculiar state of circumstances, I should conjoin other treatment, especially the continuous electric current, but my chief reliance should be placed upon chloral.

In a future article I will endeavor to compare the results attained by the physostigma venenosum with those credited to the hydrate of chloral; and thus add a page of comparative statistics to the general fund.—*Med. Archiv.*

ART. II.—ON THE USE OF THE LACTO-PHOSPHATE OF LIME AS AN ANALEPTIC MEDICAMENT IN ADYNAMIC FEVERS AND IN CONVALESCENCE. By R. BLACKE, M. D., Laureate of the Medical School of Paris, etc., etc.

In a great number of acute diseases, especially in typhoid fever, typhus, and certain forms of pneumonia, we often notice a condition of considerable adynamia, which takes its origin either in the peculiar character of the malady or in the constitution of the patient, and is constantly attended by a marked

rise of temperature. This latter phenomenon may be rationally explained by an unceasing and general process of denutrition of the tissues. And, indeed, it is well known that all molecular changes in the form or composition of the constituent parts of the organism are attended with a disengagement of heat, and that these physiological manifestations are under the dependence of the ganglionic nervous system.

Every substance whose action tends to induce a sedation of this nervous system may, therefore, by suspending or diminishing combustion, lower the temperature and oppose the progress of spoliation and of weakening of the organism. It is chiefly through a sedative action on the ganglionic nervous system that we see medicaments, apparently less diverse, like alcohol, coffee, coca, and even arsenic, produce beneficial results; act, so to say, the part of anti-déperditors, and respond to that clear and precise indication, adynamia. Such is, I think, the reason of the undeniable success of alcohol in certain forms of acute affections.

But even where the acute condition of the disease no longer exists, there exists during the period of convalescence a general atony proportional to the gravity and duration of the febrile state which had brought on a period of arrest in the phenomena of nutrition of the tissues; several months may then pass on before health is reëstablished, if, indeed, it is ever entirely recovered; and we all know how essential it often is to institute a prudent and rational treatment at the termination of an acute disease, in order to prevent it from passing into the chronic state. With the view of warding off such results, I put the question, whether it would not be more rational to resort in such cases to agents capable of arousing in the organism the entire energy of the nutritive function, and this substance, I believe, is to be found in the phosphate of lime, combined with lactic acid, and already known in France by the name of "lacto-phosphate of lime."

I was led to the employment of this salt by the physiological study of its action in all living organisms. For it is not only

in animals, but also in an equal measure in vegetables, that its action is powerful—since, a long time ago, botanists had stated that the ligneous skeleton of plants contained but insignificant proportions of the lime phosphate, whilst this substance was constantly found in the soft and nitrogenous parts of the plants. They had shown that the very existence of albuminoid substances was linked with the presence of the phosphate, and was everywhere found in direct ratio to the quantity of this agent, so that the more strongly nitrogenated vegetable food was precisely that which contained the more phosphates.

They had found out this substance in great abundance in the bud and growing leaves; they had seen it decrease in the fully developed organ, and take its way to the grain, where it became concentrated, in view of the future development of the embryo. It is furthermore known that when a grain is deposited in a situation deprived of phosphate, it produces a plant the development of which will continue only until the entire quantity of lime salt primarily contained in the grain shall have disappeared. Now, if we proceed to investigate the action of the phosphate in the mineral kingdom, we shall find identical phenomena.

I may recall the fact, that in the pregnant woman we see at the end of a few days the phosphates disappear almost completely from the urine and excretions, whereas in the pelvis and often in the cranium are formed osteophytes, destined to disappear toward the latter months of pregnancy or at the beginning of lactation. It can scarcely be objected that these phosphates are uniquely absorbed for the formation of the skeleton. Boussingault, in a series of exact experiments, which cannot be too highly quoted, has shown that young animals take up much more phosphates than is required by the development of their bony tissues alone. Besides, Boussingault, Lehmann, Mayer, and other chemists and physiologists have shown in these cases also the strict correlation which links the presence of phosphates with that of nitrogenous substances, and the concentration of this salt in all organs which are going through a process

of development, and they have announced the opinion that phosphate of lime is indispensable to the organization of albuminoid substances into cellules.*

In order to obtain a correct knowledge of the action of the lime salt of nutrition, I carefully submitted a pigeon to the test of taking food which was almost deprived of phosphate of lime. It soon lost all its liveliness, its appetite, a notable portion of its flesh and weight, and it excreted more phosphate than it absorbed. At the same time the muscular and fibrous tissues diminished as rapidly as the skeleton. The addition of the phosphate to its ordinary food soon brought back the normal condition which mineral inanition had taken away. It may be also well to mention a fact which, though well known, had not until now been elucidated, that the vital activity of animals and their temperatures are proportionate to the quantity of lime phosphate which they contain; so that from the bird to man, and from man to the mollusk, the quantity of this salt follows a descending course.

The lime phosphate, as has been seen, plays an important part, after its absorption, and when it is carried away with the albuminoid substances through the circulatory torrent into the intimate recesses of our tissues. But that is not its only action. It is found in abundance in the stomach, forms an essential part of the gastric juice, and its action on the digestion of food is such that Blondlot considers the phosphate of lime to be the truly active element of the gastric secretion. And I may indeed even now state the fact that excitement of the appetite and facility of digestion constantly and quickly result from the ingestion of lacto-phosphate of lime.

Such is, I believe, the uniform action of this substance investigated in the animal and vegetable kingdom. It is scarcely needful here to refer to the use to which agriculturists have

* "It has been recognized," says Lehmann, "that in the inferior animals, in the organism of which carbonate of lime is yet the most abundant mineral substance, the phosphate of lime accumulates in the situations where new cellules are undergoing a process of development."

turned those notions in composing phosphated manures, and to the success which has justified their applications.

How is it that, in man, the same favorable results have not been seen to follow the employment of the phosphates even in such cases where they seemed to be most clearly called for—I mean rickets, osteomalacia, and fractures of bones? A great many physicians had been led, indeed, to employ the substance in these cases, but never with those marked and precise effects which had been expected.

The failure of these attempts is satisfactorily explained when we observe that the preparation invariably prescribed was the pulverulent phosphate of lime, of which lactic acid is the natural solvent. Now, this latter substance enters only for two thousandth parts in the composition of the gastric juice. It could, therefore, transform and render absorbable only a very limited part of the ingested salt; whilst the remainder, disassociated, reduced into an imperfect powder, passed with the food into the intestines, and there produced constipation, and consequently an arrest of all organic functions, the ordinary result of this pathological condition.

It was, therefore, necessary, in order to obtain the beneficial effects of the substances, to introduce with certainty into the economy, large quantities of perfectly dissolved phosphate of lime.

It was in 1868 that Mr. Dusart and myself, after having investigated with care the phenomena of the digestion of phosphates in the stomach, were led to reproduce a substance representing exactly the composition of a portion of bone, rendered soluble and easily absorbable.

I have thought it necessary to enter into all the above details, because the facts which they involve, if they were not unknown, had at least passed without much engaging the notice of the Profession, and because there had been no explanation of these physiological results. It seems to me that now it will be easy to understand how in convalescence, and in acute affections of an adynamic form, the functions of nutrition are restored, how

after every digestion the assimilation of food is secured, and fills up the gap produced by disease, or arrests denutrition caused by grave fevers, substituting in its stead a contrary movement.

The lacto-phosphate of lime is at once an aliment and an article of food, and a medicament of the highest value. Its administration cannot, like that of alcohol, produce mischievous consequences, and it never depresses the nervous system charged with presiding over the transformations which take place in the nature or form of the elements of our tissues. It should be given in full physiological doses.—*Ex.*

ART. III.—TRANSFUSION OF BLOOD. By CARL PROEGLER, M. D., Late Surgeon German Army, Aurora, Ill.

I have the pleasure to lay before the medical fraternity a few interesting cases of transfusion of blood, and I do it very reluctantly, knowing that our text-books contain but very little. There are only twenty cases on record, as far as I know(!!!) The late Franco-German war has developed many striking features interesting for the surgeon only, which have not been noticed during the late American war.

Tremendous battles, such as have not been fought since the beginning of known history, masses hurled together for certain destruction as not even the war era of the first Napoleon can point out, left some physical phenomena, as I would call them. Take only the deaths of the German army, 119,000 men, 3,000 officers, among them quite a good many surgeons, and any one may see that the fighting was done with desperation on either side.

The troops who came out alive from the bloody battles of Rezanoible, Mary aux Chenes, Mars la Tour, and Gravelotte, experienced strange feelings, dizziness, deafness, nervous irritability, etc. But more so the French troops after routing the Commune.

After being discharged from the medical service of the German army, I wanted to see the other side of the picture, and only by strict adherence to the French and English language I escaped detection as a German. The scenes after the fall of Paris beggar description—it was an embodied hell on earth. No discipline, no order, nothing. I saw wounded men dying by the dozen for want of attendance. Dr. Lefevre and several Russian gentlemen had a kind of provisionary hospital near the Passage Saumon, in the neighborhood of the Rue Richelieu, and here it was that I had occasion to try transfusion of blood. Most of the amputated died with secondary hæmorrhage, probably produced by the nervous shock and excitement. I can relate only surgical cases, and having had four successful cases, I may without presumption point out that, to my mind, in all cases where there is a great loss of blood, either produced by wounds, pulmonary and uterine bleeding, transfusion ought to be resorted to as the dernier resort.

As transfusion of blood has been but very little practiced, I might be excused for pointing out the indications for transfusion in surgical cases.

1. Where amputation has been delayed on some account, with but little chance for the patient, but where the latter insists upon an operation.

2. Reämputation or resection on account of pyæmia or extreme hæmorrhage, either on account of dangerous after-bleeding, general debility, or a hæmorrhagic diathesis.

3. Extreme prostration on account of shock, and where life seems to be in imminent danger.

In cases of amputation, provided the patient was, up to the time of operation, a healthy man, his own blood might be taken, and instead of opening a vein in the arm, any of the branches of the saphena can be taken. The blood may be thrown in, in the already cut veins, care being taken to take a vein which has not too large a sheath. Future experience must point out more fully the correctness or error of this view.

If you decide to transfuse blood into the arm, the median

basilic is the best. The patient ought to be placed in a recumbent position, so that the blood may flow towards the heart, and then the operator dissects down to the vein, carefully dissecting the loose, cellular tissue for about half an inch, and a double thread is passed under it, so that the vein may be drawn out, when the operation commences. You may either cut a V-shaped piece out of the vein or cut the vein half through.

The blood, when taken from the arm of a person, ought to fall in a basin previously warmed to a temperature of about 100°, stirring it slowly with some glass rods, care being taken not to create any air-bubbles. Some authorities use phosphate of soda to prevent coägulation, but I have not used it; the even temperature is the main thing in my mind. After stirring, it ought to be strained through a perfectly clean muslin cloth. The instrument used is a Pravay syringe, made of glass, and holding three ounces, with an india-rubber tube and a fine steel or silver nozzle cut like a pen. The amount to be injected varies according to circumstance, but it never ought to exceed sixteen ounces.

The vein is then put upon a probe, the nozzle carefully held and inserted and closely held by an assistant, care being taken that no air enters. It requires a little skill to do this, but it soon will be learned on dogs, etc. I practiced first on cadavers, having an abundance of them.

CASE I.—Leautie, French soldier, wounded in the streets of Paris; gunshot wound of the thigh; conservative surgery tried; on account of deep-seated ulceration, about a week after admission amputation was performed. Operator, Dr. Le Ballier. Patient was of delicate health, but had never been sick previous to admission; nervous sanguineous temperament; pulse before operation 95; countenance pale, and coming very slowly under the influence of chloroform. On account of his pulse had to leave off anæsthesia. Operation ended without any material change, but patient lost a good deal of blood in spite of first-class assistance in the person of Dr. Boucher, who compressed the femoral. Pulse feeble, respiration hurried, all the

symptoms of approaching collapse and transfusion was speedily resorted to; used patient's own blood; this was stirred with a glass rod, preventing as much as possible the formation of bubbles, and with the proper temperature, strained through a muslin cloth. I injected four ounces; and let me say here, that where the blood is injected in the leg, the vein ought always, in cases of amputation, where there is a round and short surface, to be dissected carefully upwards, so that the nozzle of the syringe may be safely inserted, placing the leg high up and the patient low down.

The effect of the transfusion was, in this case, readily seen, and the symptoms became decidedly better. I used in this case altogether eight ounces. The patient was kept in a recumbent position for a little while, carefully watching the pulse and the heart.

Patient was not removed to his bed until four hours after the operation, feeding him in the meantime with beef tea and wine, producing artificial heat by warm bottles, etc. Patient made a good recovery. This case would not have stood the fearful loss of blood if transfusion of blood had not taken place.

CASE II.—Morrel, French soldier, wounded before Paris by a ball penetrating the left lung between the third and fourth ribs. I have never seen a more hopeless case from the beginning; patient would lose blood every day, and discharged about and ounce of pus during the day from both sides. With the best of treatment he grew worse. When I saw him he had a frightful attack of hæmorrhage from the lungs, the third he had in the course of two days. Pulse 120, breathing hurried, clammy sweat, extremities cold, in fact, all the signs of speedy dissolution.

Ordered internally, sesquichl. of iron and brandy, but without any perceptible change. In consultation with Dr. Bagirsky, Le Vallier, etc., it was concluded to try transfusion of blood; the blood was taken from a robust Frenchman. The median basilic was dissected, and transfusion begun; used with him nine ounces. His appearance after the introduction of the first

three ounces was very marked; pulse perceptible and fuller; systolic murmur was heard, etc.

I placed him under the guardianship of a medical student, who watched him carefully for the next two weeks. The patient was doing finely when, through the negligence of head steward, his room was cleaned, by which he caught cold, inducing double pneumonia, of which he died. It is evident that in this case life was prolonged.

CASE III.—Farganier, French soldier, wounded at the tibia, showed signs of pyæmia, and amputation was performed. Patient was of a cachectic tint; pulse, 90; heart's action weak, besides having a Hunterian chancre. All of the surgeons were of the opinion that there was but little chance for his recovery. Used the blood of a healthy French peasant, a brother of the patient. Injected, after operation was over, and he gradually began to sink, six ounces in the vein of the leg. With the help of stimulants and proper after-treatment he made a recovery.

Our profession has for its great aim the prolongation of life, and if I have contributed something to make death less fearful, or even prolonged life for a few seconds, I have been richly rewarded. For my colleagues it is now to consider these points, and I hope that future experience will reveal perhaps a better method than I could devise.

Dr. W. Betz, of Heilbronn, Germany, tried transfusion of blood successfully in a woman laboring from hæmorrhage from the stomach and bowels. In spite of all care, he relates that two very minute bubbles of air were forced into the veins; the entrance of air was instantly followed by profound collapse, but by the use of cold water and other restoratives the patient was soon revived. The woman ultimately recovered.

As already said, transfusion must not be put off too long, until death is, as it were, already sitting upon the lips. There have been used from one to two pounds; but such quantities produce so much systemic disturbance that it is better not to use more than sixteen ounces; in the cases related I have never

used over eight. I had not to resort in the same subject to transfusion again. The fatal cases died soon after. Any functional disturbances, as headache, etc., following transfusion, should be quieted with hydrate of chloral, morphia, etc.—*Chicago Medical Journal.*

ART. IV.—ON ATTEMPTING UNION BY THE FIRST INTENTION IN MAJOR AMPUTATIONS. By F. SEYMOUR, M. D.

It is astonishing to see and notice sometimes the steadiness and pertinacity with which we follow certain habits and ideas, without either disputing, on the one hand, or thinking of the propriety on the other, and blindly following the train of thought or action as the one or the other may be placed before us, becoming, as it were, creatures of imitation. Among the many things that have drawn its votaries in their track, the custom of bringing the flaps of an amputated limb together soon after the operation is, in my mind, a custom that has sacrificed more lives than any other surgical proceeding; and it is one that, while it has many serious and fatal objections, has not one single fact or feature in. its favor. Years ago this matter forced itself strongly upon my attention, and up to this time I have not found any reason to alter my views. Although we have had articles without number about blood poisoning, purulent absorption, purulent deposition, pyæmia, myelitis, etc., which ought to have opened our eyes long ago, yet we still keep on the even tenor of our way, suturing, strapping, and bandaging stumps, as if we *could* obtain union by the adhesive process or primary intention; and we do all we can *apparently* to confine the result of the inflammatory process, pus, and the products of metamorphosis of tissue, and then wonder at the results. In looking over the percentage of mortality from amputations of the middle and upper third of the thigh, for instance, we find the mortality to be eighty-five per cent. in military hospitals (I am quoting from memory); and it almost

makes us think that the other fifteen per cent. are not cures, but escapes. Now, would Dame Nature, or could she, have done much worse without the assistance of amputation? And looking at the aforesaid fearful rate of mortality, I consider it the duty of every surgeon and practitioner of medicine to endeavor, by all means in his power, however humble his station may be in the *arte medendi*, to assist in the lessening of this fearful rate of mortality. As I have tried the matter largely, and have found the difference, I now state the results of my experience. In the army hospitals, while I continued the habit of sutures and strapping, with drainage, I lost the same percentage as others; but after I kept the flaps apart until suppuration had ceased, except the small amount from the granulating surface, and the swelling of the muscles had gone down, the mortality decreased to twelve or to fifteen per cent.; I say twelve to fifteen per cent., although it was lower than that. When I determined to try this method, I performed the operation of amputation of the thigh in several cases in a military hospital, and but one died; he was a Confederate officer, who was sent to the prison hospital, and his flaps were brought together there. The matter upon which I am writing is known to several hospital surgeons who were with me, so it can be substantiated; and after I saw its success I never allowed the flaps to be brought together in any amputation above the knee or elbow. But aside from this, let us look at the principles involved, and then allow me to state the practice I adopted and the phenomena displayed by the amputated limb. If we consider in one case we have only a large incised *wound, whose surface we can see and examine at every point, and every hour notice any changes going on, and apply any local treatment where and how we please*, seeing the effects of our constitutional remedies, and having the wound itself as an index to the constitutional action under our immediate eye, is it not much better than to tie and bandage and trust to nature blindly for a certain train of curative action, which nature, without assistance, may not be equal to, and when we find symptoms arising

that we cannot always combat successfully, and the expression of which we must wait for, until in many cases it is too late?

And now let us see what this union by first intention is. Can amputated flaps be considered healed when joined or glued together by serum or lymph, or only when new granulated flesh springing from the wound coalesces together and vessels shoot into the parts, and the circulation becomes established and the parts organize? Now if we refer to authors on this matter, we find that as John Hunter taught that the immediate effect of suppuration is the leading step to the formation of new substances called granulations, which are a method of restoring the first order of parts to health, "Sir Astley Cooper, who gave immense attention to this matter, tells us that ten days is the shortest time in which adhesive matter becomes organized, and that the new vessels are formed by the elongation of the vasa-vasorum of the surrounding arteries, which will become dilated serpentine to the degree of vascularity, which will be in proportion to the part subjected to the adhesive process." Paget, in his Surgical Pathology, says: "A scar is always formed by the organization of the new matter, and the formation of lymph-cells is a process so indefinitely separated from that of pus-cells, that union by primary adhesion is much more likely to pass into suppuration than any process is in which no lymph is formed. Granulations will arise on all wounded surfaces that are left open to the air and are not allowed to dry. Exposure of the wound to the air is not prevented by any ordinary dressings. The air that is enclosed beneath them (dressings) appears to be quite enough to determine the differences of the events which follow the open, subcutaneous injuries, unless the organic matter in it be destroyed or rendered innocuous by carbolic acid or some similar antiseptic substance. (Does not suppuration take place, to a certain extent, in any case carbolic acid is applied)? In the new edition, 1861, of Cooper's Surgical Dictionary, under the head of Adhesion, it is said, "The material by which adhesion is effected is the fibrin or coägulable lymph of the blood, which may be exuded there without inflammation, or in

consequence of inflammation, which, when it stops short and does not cause suppuration, is *erroneously* called the *adhesive inflammation;* but it is no use to multiply words or definitions, or use quotations. This fact is patent, that effusion of lymph or serum, or serous lymph or any other matter can never produce ultimate and healthy adhesion by the formation of new matter, for they are only the products of the injury sustained, and the flaps of a man's thigh are not the sides of a wooden box, to be glued together and expected to remain so. As before said, certain phenomena must take place, new matter must be deposited, and that organized physiologically before a cure can be effected; and to do that a certain time is necessary, and all the suturing, strapping, etc., in the world will not hasten, but in many instances retard it, even to death. Now to give the appearances of the flaps of an amputated thigh in it, advance to complete granulation. At the end of the first day the muscles at the flaps around the edges become swollen and discolored, of a dark red, sometimes purple appearance; the surfaces swollen, glazed, and discolored and dry. At the end of the second day they became more swollen and discolored, and dry (and to one not used to seeing their appearance rather alarming). On the third day the surfaces crack, and a slight purulent oozing takes place, and a white coating of lymph begins to make its appearance, which continues and covers the surface of the flaps like a grayish paint. About the fifth day the swelling of the flaps begins to subside. On the sixth or seventh day the surface of the flaps, or rather the coat of lymph, begins to be covered over, or rather dotted with numerous red points very minute, which push through the lymph, and the surface becomes moist; the swelling of the muscles a great deal subsided. On the eighth day the points of granulation are much enlarged, shooting through the coat of lymph, and the lymph itself slowly begins to part at different points and roll up. By the eleventh to twelfth day, it has become detached entirely, and the florid granulations cover the flaps, which are moist, of the natural size; the swelling of the muscles having subsided entirely, a

very slight creamy, healthy pus covers the granulations, which is very slight in quantity. At this time I bring the flaps together, and I have had no trouble in getting union very promptly, and my case is well much sooner than by the other way of bringing the flaps together, and rarely are there any symptoms requiring any treatment except warm or cold water to the surface of the flaps for the purpose of cleansing them. The patient generally requires no constitutional treatment, and you have no pyæmic symptoms, no purulent deposits, and, in general, no difficulty in the case. Let any surgeon try the keeping of the flap apart for the first ten or twelve days after an operation, and he will never bring them together again or permit them to be brought together, and I am sure he will find a much less per centum of mortality in his thigh amputations than ever he dreamed of. So sanguine am I on this matter that I consider it a directly dangerous matter to bring the flaps together soon after amputation of the thigh, endeavoring to obtain union by what is called first intention.—*Cin. Med. Jour.*

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

Treatment of Small-Pox.—Dr. Stokes read a communication to the Dublin College of Physicians on the treatment of small-pox, especially considered with a view to the prevention of pitting after the disease. He pointed out that the existence of the present epidemic was a sufficient answer to the assumption that small-pox had been stamped out in Ireland. In his opinion another example of the change of type in disease—an asthenic form of zymotic affections having taken the place of their previously existing asthenic character—was afforded in the instance of variola. He believed that the liability to pitting was greater in asthenic than in typhoid cases, and in searching for a

reason he had found that the tendency to pit depended mainly on the degree of vascularity of the skin. The indications to be fulfilled in the attempt to check or even entirely to prevent the occurrence of this unpleasant consequence of small-pox, were three: 1. The exclusion of air. 2. The maintenance of the parts affected in a moist state. 3. The alleviation of local irritation. All these indications were satisfied by the repeated application of soft linseed-meal poultices to the face, which was the part most exposed to the air, consequently the most dry, and lastly the most highly vascular.

Dr. Stokes cited a most remarkable case which exemplified the good effect of local depletion of the face by leeches, in preventing the development of pustules and the formation of pits. A young girl was admitted to hospital with every symptom of most intense pyrexia, including terrible headache. So urgent was the last-named symptom, that leeches were applied to the temples in considerable numbers. Two days afterward a dense crop of small-pox vesicles sprang up all over the body and extremities, and soon became confluent, while on the face and neck only a few aborted pustules made their appearance.

If it were required to carry out the indications already alluded to in the case of the entire body, the treatment proposed by Hebra, of continued immersion in a warm bath, was invaluable. In the Meath Hospital a patient, at death's door in small-pox, his body being a mass of foul, fœtid, and reeking sores, was plunged into a bath and kept there for seven consecutive hours. All delirium ceased at once, the sufferer's torture was at an end, and he quickly became convalescent.

He concluded by giving his hearty testimony of approval of the method introduced by Hebra, pointing out its freedom from danger, the possibility of administering nourishment and stimulants to patients while in the bath, and the fact that the relief given in the most severe confluent cases was at once immediate and permanent.—*Philadelphia Reporter.*

Spontaneous Combustion.—In March last, a well known Detroit druggist, assisted by two seriously inclined and science-

loving gentlemen, resolved to make a number of experiments to test the worth of the talk about spontaneous combustion, and their experiments are well worth the attention of every reader.

They first took a piece of cotton cloth, which had once formed a part of a sheet, and which had been used until quite threadbare, and smeared it with boiled linseed oil. An old chest was placed in the loft of a store-room back of the drug store, a piece of zinc over it, another piece under it, and then the chest filled with paper and rags, and this particular piece of cloth in the centre. Although the room was not a light one, and the weather cold, in eight days there was such a smell of fire about the trunk, and the chances so good for a conflagration within it, that the contents were emptied.

An examination showed that the fibre of the oiled cloth had untwisted and shriveled up, and that the rag looked as if it had been held too near a hot blaze. In April, when the rays of the sun were stronger, a pair of painter's overalls, literally covered with paint and oil, were rolled up, and a handful of pine shavings placed inside, and these were crowded in next to the roof-boards of the loft. The experiment was not a week old, when, during one warm afternoon, a smell of smoke alarmed a workman in the next room, and he found the overalls burning, and so tinder-like was the cloth that it had to be crowded into a pail of water to prevent total destruction.

During the hot weather of August, a handful of old cotton rags, in which two matches were placed, but which were not smeared with oil or other matter, were shut up in a tin box and hung in the loft, a rear window allowing the afternoon sun to shine directly on the box for several hours. Toward the close of the fourth day, the druggist took down the box to see how the experiment was progressing, and found the contents to consist of a puff of black cinders, which flew all over him as the lid was lifted. Having a vacant corner in his brick woodhouse at home, the druggist took the trunk up there, where there was no danger of burning a building. He filled the trunk with the contents of the paper rag-bag, and then smeared one with ben-

zine and threw it in last of all. The trunk was shut tight, everything cleared away from its vicinity, and he commenced watching. One day the family came home, to find a few ashes marking the place where the trunk stood, while the bricks above and around were badly stained with smoke.—*Scientific Press.*

Arabian Mode of Perfuming.—How the Arab ladies perfume themselves is thus described by Sir Samuel Baker: "In the floor of the hut or tent, as it may chance to be, a small hole is excavated sufficiently large to contain a champagne bottle. A fire of charcoal or simply glowing embers is made within the hole, into which the woman about to be scented throws a handful of drugs. She then takes off the clothes, or robe which forms her dress, and crouches over the fumes, while she arranges her robe to fall as a mantle from her neck to the ground, like a tent. She now begins to perspire freely in the hot air bath, and the pores of the skin being open and moist, the volatile oil from the smoke of the burning perfumes is immediately absorbed. By the time the fire has expired, the scenting process is completed, and both her person and her robe are redolent with incense, with which they are so thoroughly impregnated that I have frequently smelt a party of women strongly at full a hundred yards distance, when the wind has been blowing from their direction. The scent, which is supposed to be very attractive to gentlemen, is composed of ginger, cloves, cinnamon, frankincense, and myrrh, a species of sea-weed brought from the Red Sea, and lastly, the horny disc which covers the aperture when the shell-fish withdraws itself within its shell.—*Ex.*

To Remove Tar or Resinous Substances from the Skin.—Dr. Brickerd, of Pennsylvania, states that by accident he recently discovered a simple combination that will speedily and effectually remove from glass, porcelain, or the skin, Venice turpentine, tar, pitch, or any sticky substance of a like nature that will resist warm water and soap. It is entirely harmless, and yet it will remove these substances as promptly and as thor-

oughly as soap and water will remove common dirt. It consists of a mixture of the powdered extract of licorice and oil of aniseed. This seems to combine with the turpentine, and the vessel may then be rubbed dry and clean with a pledget of cotton. For cleaning tar and pitch from the skin, the mixture should be made about the consistency of thick cream, and rubbed in thoroughly—a piece of good soap, a sponge, and warm soft water will remove the last traces.—*Medical and Surgical Reporter.*

Estimation of Fat in Milk.—A. Schukoffsky mixes 20 cc. milk, 20 cc. ether, and 20 cc. strong alcohol, and sets the mixture aside for twenty-four hours; milk sugar crystalizes out and casein is precipitated in flocks, and may be readily washed upon a filter with ether and alcohol. From the filtrate the ether is distilled off, then the alcohol evaporated completely in a water-bath; the residuary liquid is now treated with ether, the etherial solution removed by means of a separatory funnel, and finally evaporated to recover the fat.

The author claims for this method greater accuracy than can be attained by following Tolmatsheff's (treatment of milk with sulphate of magnesia), Haidlen's (with gypsum), Trommer's (with marble dust), or Hoppe Seyler's method (treatment with potassa) solution.—*Ex.*

Galvanic Treatment of Bed-Sores and Indolent Ulcers.—Dr. Wm. A. Hammond recommends for indolent ulcers and bed-sores the galvanic treatment as first recommended by Crussel, of St. Petersburg. He says: "During the last six years I have employed it to a great extent in the treatment of bed-sores caused by diseases of the spinal cord, and with scarcely a failure; indeed, I may say without any failure, except in two cases where deep sinuses had formed, which could not be reached by the apparatus. A thin silver plate—no thicker than a sheet of paper—is cut to the exact size and shape of the bed-sore; a zinc plate of about the same size is connected with the silver by fine silver or copper wire six or eight inches in length. The

silver wire is placed in immediate contact with the bed-sore, and the zinc plate on some part of the skin above, a piece of chamois skin soaked in vinegar intervening. This must be kept moist, or there is little or no action of the battery. Within a few hours the effect is perceptible, and in a day or two the cure is complete in a majority of cases. In a few instances a longer time is required. I have frequently seen bed-sores three or four inches in diameter, and a half inch deep, heal over in forty-eight hours. Mr. Spencer Wells states that he has often witnessed large ulcers covered with granulations within twenty-four hours, and completely filled up and cicatrization begun in forty-eight hours. During his recent visit to this country, I informed him of my experience, and he reiterated his opinion that it was the best of all methods for treating ulcers of indolent character and bed-sores.—*Pacific Med. and Surg. Jour.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—MULTILOCULAR OVARIAN TUMOR—EXTENSIVE PERITONEAL ADHESIONS—INCISION NINE INCHES IN LENGTH—WEIGHT OF TUMOR FORTY-ONE POUNDS—RECOVERY. By T. A. MEANS, M. D., Montgomery, Ala.

Mrs. R., of Lowndes county, Ala., consulted me in the month of November, 1871, as to the condition of her daughter, Annie L., aged fifteen years, stating that she had had intermittent fever since her return from school, and that there was an unnatural enlargement of her abdomen, attributable, as she thought, to a diseased liver, or an enlarged spleen. Trusting alone to her statement, I prescribed accordingly.

Within the month word was conveyed to me that she was no better, and that her abdomen continued to enlarge. A neighboring physician was called in, and prescribed the usual reme-

dies for ascites, suspecting the case to be one of ordinary dropsy.

I saw the patient for the first time, in consultation with her family physician, in the month of December. I found her greatly emaciated, the abdomen larger than a woman at full term, quite uniform in shape and elasticity. Fluctuation general and distinct everywhere. She measured around the waist twenty-seven inches; across the umbilicus, fifty-three inches; between the spinous processes of the two ilia, twenty-nine inches; menstruation quite regular and natural; appetite good; her rest undisturbed, and her condition, other than the emaciation, most excellent. She moved about with as much buoyancy and elasticity as a woman at term, apparently unmindful of a disease that was fast consuming her young life.

Finding a satisfactory diagnosis impossible at the time, and yet suspecting the existence of an ovarian cyst, tapping was advised and performed, and thirty-five pints of a pea-green, semi-transparent serum obtained. A tumor, about the size of an apple, was now distinctly felt deep down in the right iliac fossa, and giving, upon pressure, some pain.

Knowing the uncertainty of a correct diagnosis in all adventitious growths within the abdomen, we deemed it best to await a second filling up of the cavity.

Early in April of the present year I was again summoned, and by consent of the family, tapped her a second time, and obtained twenty-seven pints. The contents were similar in color, about the consistency of well-made starch, and exceedingly tenacious.

A nodulated tumor, involving the whole of the right side, and dipping down into the left groin, was now made manifest. There being no longer any doubt as to the nature of the case, I immediately informed the family of the fact; pictured the dangers attending an operation of such magnitude, and frankly confessed to them that without it she must surely die. Consent was readily given, and the patient sent up to me about the middle of last June. A thorough examination was again made by a number of medical friends, and the diagnosis confirmed.

On the morning of the 19th of June she was chloroformed, and in the presence of Drs. Weatherly, Michel, Jones, and Gaston, of this city, and Dr. Cochran, of Mobile, an incision was made nine inches in length, opening the abdominal cavity, when the tumor immediately presented itself. The extensive peritoneal adhesions involving the whole abdominal cavity were forcibly and rapidly removed by a sweep of the hand; the sack emptied of twenty-seven pints of the same pea-green, tenacious serum, and the mass lifted out of the cavity.

The pedicle consisted of two stems three-fourths of an inch thick and three inches long, with a thin intervening tissue. The stem being too short for the application of the clamp, I passed a double ligature, and tied both ends separately, cut short the ligatures, and allowed the stump to drop back into the pelvis.

The abdominal and pelvic cavities were now thoroughly sponged, the opening closed with nine metallic sutures, and the patient put to bed. Reäction from the anæsthetic being complete, I administered a half-grain pill of opium, introduced a sigmoid catheter into the bladder, and enjoined the utmost quietude, both of body and mind. On the tenth day the sutures were removed; the bowels relieved by the pipe; and on the twenty-first day the patient was allowed the freedom of her room. On the twenty-sixth day she returned home, a distance of eighteen miles, quite well. Two weeks later she informed me, by letter, that her catamenia had returned, and that her health was perfect.

The tumor consisted of the left ovary, formed of one large cyst, and a multilocular mass attached to the septum. Its weight, divested of its contents, was eleven pounds. Through the courtesy of my friend, Dr. R. F. Michel, of this city, the wall and contents of the sack were examined, and the following results obtained:

Dr. T. A. Means:

My Dear Doctor,—I have carefully examined the tumor you removed from the abdomen of Miss R., and give you this record as the result of that investigation.

It is a *compound ovarian cystic tumor*, polyglobular in shape, and weighing eleven pounds. The external surface was smooth and shining, and upon carefully dissecting the walls of the cyst, I found it to be composed of three coats; an external, which, from its peculiar polished surface, enabled me readily to recognize it as peritoneal. The middle layer was fibrous, and in this tissue vessels were apparent. The inner coat was cellular, containing spheroidal epithelia. The contents of these many cysts varied somewhat. In some we observed a thick mucus and gelatinous-like mass, which, under the field of the microscope, we recognized as pure pus; in some fatty globules in abundance mixed with granular matter; in others serous. I believe about all the solid material was fibrinous; the contents of some of the cysts coägulated readily by the application of heat, and almost every test proved the fluid to be alkaline in character. In other words, I regard the entire mass, pathologically, as *hypertrophied Graafian follicles*. The fallopian tube of the left side, with its fimbriated extremity and the broad ligament, was attached to the tumor. Seven vessels were observed in the upper and lower border of the pedicle.

Respectfully your obedient servant, etc.,

R. F. MICHEL,

SECOND CASE.

Sometime during the month of July last, Dr. Jones asked me to see a patient of his of suspected ovarian tumor. The consent of the patient to be tapped was not obtained until our second visit, two weeks later. At this visit the patient measured fifty-two inches across the umbilicus, and the same from the ensiform cartilage to the symphysis pubis. The shape was perfectly round; the abdomen elastic, and readily fluctuating in all directions. The percussion sound was resonant over the entire abdomen. Result of tapping seven gallons, and some waste, of a light amber-colored fluid, and the existence of an ovarian tumor diagnosed. The pelvis was filled with an elastic tumor, involving the whole of the right injured region, and extending as far up as the left hypochondrium.

On the fifth day of the present month, the patient was chloroformed, and in the presence of Drs. Jones and Jackson, I made an incision in the linea-alba, and carefully opened the peritoneal cavity. I found the adhesions more than usually extensive; the uterus occupied its natural position after the collapse of the sacks, and was involved in the adhesions. The left broad ligament was stretched obliquely upward across the whole body of the tumor, grasping it in form like an open hand. The fundus of the uterus and the upper edges of the two broad ligaments formed a distinct ridge. Great force was necessary to enucleate from the extensive pelvic, omental, uterine, vaginal, vesical, and rectal adhesions. Tracing the stem, which lay along the inner border of the left broad ligament, I found it attached with a firm cartilaginous base to the pelvis one to two inches in diamater. This I ligated, detached with scissors, and lifted it out of the abdomen, the cavity sponged, and the opening closed with nine metallic sutures. Death two hours afterward.

The foregoing case was one of peculiar interest, as much for the unusually firm and extensive adhesions as from the opening into the vagina, made on two previous occasions, by a voluntary rupture of the sack. I design a more extended notice of the case at another time.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

NAVASOTA, GRIMES COUNTY, TEXAS, June 17, 1872.

Dear Sir,—On this, the anniversary of the battle of Bunker's Hill, I undertake to respond to the request you have made of me, to write you some account of our colored population in this part of the State of Texas; how the birth and death rates compare with the same in their servile condition before the

war; of their marriage relation; of wilful abortions among them now as compared with former times; of the progress of education; of their religious sentiments; their morals and their crimes.

Each one of these topics, if properly treated, would consume more time than I can spare, and occupy too great a space for our present purpose. The condition of the colored race in our country has occupied such a prominent place in our newspapers, in our (?) pulpits, as well as in the halls of legislation, that every one is familiar with the subject, except some of our northern fellow-citizens, who will not receive the instruction imparted to them, and who, in times past, pictured them as beasts of burden, as degraded beyond redemption, as ignorant beyond conception, as entirely deprived of all religious instruction and knowledge, and yet those same very sympathetic people now believe (or is it all pretence)? the negroes are intelligent, virtuous, honest, industrious; models of perfection in all that ennobles and adorns human nature; far superior to the whites, able legislators, dignified politicians, and citizens of unblemished character, worthy of all honor and the most exalted stations.

The total white population of Texas is about one million, while the total colored is only about two hundred thousand.

In Grimes county the white population is about eight thousand five hundred, and the colored population is about fourteen thousand five hundred, showing a majority of about six thousand in their favor. This colored preponderance also prevails more or less within a few counties near the coast on the Brazos river and other streams, where the rich alluvial soil, so fruitful in sugar cane and cotton is found. It is a notable fact all through the South, that where there was more wealth and where the negro population abounded before the war, that now those sections of country show less thrift and prosperity than other parts, and those families which were the largest slaveholders are the least prosperous of our people.

The colored population of Texas was very rapidly increased

during the war by slaveholders in the other States bringing their negroes here for safety from the Federal armies. Since the war thousands of those "refugee negroes" have returned to their old homes, or gone to the cities, while other thousands have died. Owing to the colored population being in the majority in some of the counties, there are a few colored men in the State Legislature, and some of the minor civil offices are filled by colored men. These things have produced much ill feeling towards the blacks by the more impulsive and less thoughtful of our population; but as time rolls on, the acerbity of feeling is softening down, they see that the country is not ruined, and each succeeding year shows that the difference in population is certainly and constantly being overcome, partly by the decrease in the colored population and partly by the influx of white people from the older States and from foreign countries. Texas, if populated in the proportion of Massachusetts, would easily support a population of fifty millions, while Grimes county would have over fifty thousand.

The gregarious proclivities of the colored people, their fondness of throngs and crowds, for excitement and novelty, coupled with their dislike of labor, especially the drudgery of farm life, has caused thousands of the best farms in the State to lie uncultivated and revert almost to the original condition of dense forest, or open prairies. They prefer cities to the country, and rather than toil from day to day, the year round, and be well housed and regularly fed, they will collect in the towns and live by chance and haphazard, and when hard pressed, feel no scruples in stealing what they want. Work is irksome to the negro as a general thing; there are exceptions. It is contended by some that they were not made to work, not required by our Maker to work, but to live upon the fruits and spontaneous productions of the earth, the fish of the waters, the fowls of the air, and the animals of the forest. See Genesis, chap. i., verses 28, 29. In the second chapter and fifth verse, it is said there was not a man to till the ground, and so it is said in the seventh verse, He made a man, breathed into him the breath of life, and

he became a living soul, looking much like two distinct acts of creation, and while one of the creatures is to live like a beast, the other is a living soul, and is to live by toil and labor, and his task is laid out for him. But we will leave that with theologians.

The negro is fond of change, fond of moving from place to place, fond of traveling; really showing the disposition of the nomadic races in the East. They are fond of tinsel and show. If one has a pony, a pistol, or gun, a watch-chain, and some hair-grease, he cares for little else. They are satisfied to live in huts, and cabins with leaky roofs, without bedding, cooking utensils, or furniture, and subsist in a haphazard way, partly by luck and partly by stealing. If you furnish them with a horse, and food to feed it with, they will sell the food and ride the horse to death. If you furnish them with a good house, they will sell or barter, waste and destroy anything they have. Of course there are exceptions to this, some are thrifty and prosperous, as much as the white people.

It is difficult, if not impossible, to institute a comparison between the death rates of *ante bellum* times and the times since then. There has been such an upheaval of estates and families, such changes in the local habitations of the colored race, that statistics are at fault. I regret to say that the marshals and deputy marshals were remiss in their duties when taking the census of 1870. Mr. W. Richardson, the able editor of the "Galveston News," says, in computing our population by the census of 1870, it is necessary to add twenty per cent. to the returns as published. In my statement above of the population, I have made the addition. But the belief is general that there are far more deaths since emancipation than during slavery. There are many reasons for this; they are ignorant, and consequently poor nurses; they are indifferent to each other's welfare. Even members of a family will not nurse with proper care their sick; they are sleepy-headed, and that causes neglect of the sick; they forget directions as to the times and modes of administering medicines. Sometimes they are dishonest, throw

away the medicines and say they gave them as directed. I have known them to grumble and complain at the sick, show great impatience with them, and evince evident relief and satisfaction when the patient died. I will narrate a case which occurred here in 1867. Mr. W. Terrell had hands hired, working his farm; he was a kind master, and is always kind to those under him. One of his colored men was sick with pneumonia in February, and although the man was already in debt, Mr. Terrell sent for a physician, and paid the bill. Another man occupied the room with the sick one. At night the sick man wanted water, asked his comrade to give him some, he refused to do so; said it was too cold to go to the well; it was not yet bedtime. The fellow demanded pay for waiting on the sick, and the sick agreed to pay him fifty cents for a drink of water. The fellow went to the water-bucket, *in the room*, and handed him a drink. Soon after Mr. Terrell came in, when the sick man told the occurrence; the other never disputed it, and at the request of the sick man Mr. Terrell paid the fifty cents in specie, and the rascal took it without wincing. The sick man died. Mr. Terrell now doubts that negroes have souls. I have seen husbands and wives themselves absent from home without cause while the wife or husband was sick. So I have seen mothers and fathers neglect their offspring, and it is very common for children to go off, or otherwise neglect and harass their parents during sickness. They are so negligent and unthrifty, that when sickness comes they have not a change of clothes, and certainly the fewest number have a supply of bedding to take one of the family cleanly through a fortnight's illness. Of course, with soiled body clothes, soiled or wet bedclothes, with a case of pneumonia, or any illness in winter, we may safely predict the termination. So if firewood is scarce, or difficult, or expensive to obtain, as is the case in the large prairies and in towns, the sick must suffer for proper warmth and the various little comforts dependent on the fire for their preparation. Living, as the most of them do, from hand to mouth, the sick and convalescent never have the necessary diet

and regimen for such cases. During slavery these things were all supplied by the owner or employer. Physicians have been imposed on by this thriftless class till they now have to go unattended, and depend on people of their color for what little aid they receive. They contract debts, and although they will promise every day, or ten times a day, to pay, yet they just as certainly fail to do it. They will send for every doctor in reach of them in succession, until their credit runs out, then they move to a new place, and go through the same routine.

As to the marriage relation, I risk nothing when I say continence and virtue are unknown amongst them. That withering line of Pope's—

"Every woman is at heart a rake—"

can be truthfully applied to both sexes of the colored race, so far as my knowledge of them goes. The men deem it a recommendation to be able to keep a plurality of wives, or concubines; they boast of it; they think it is manly; and the greater show a man can make of virile powers, proves him more of the man. I recollect that Dr. Barth, the distinguished German, who explored a part of Central Africa some twenty years ago, says he saw a sight at the court of one of the African kings which illustrates this. Of course the King had a number of wives; and while Dr. Barth was there, there was quite a collection of the dignitaries of the land, the subordinate chiefs and their wives and attendants were there; a grand reception day or levee was appointed, when the King was to show himself to be every inch a man, and every way worthy and duly qualified to reign over that realm. In the public square was erected a platform, and the King, with his numerous wives and concubines, were there, nude or nearly so. He was a stout, robust, brawny fellow, about thirty-five years old. With sound of tom-toms and other noisy instruments, the ceremonies were opened. The King made some grandiloquent speech, and then with many snorts and squeals and neighings, prancings and pawings, and whatever other demonstrations could give éclât to the performances, he proceeded to cover one of his wives there, on the

public platform, before that large and select assembly. Then going through the same process of squealing, neighing and snorting, he displayed his genitalia to the admiring gaze of the audience, and proceeded to cover another wife, and so on, and so on, for several hours. Of course the huzzas and shouts went up at each proper time to attest the pleasure, the enjoyment and the approbation of his loyal subjects. Dr. Barth was very much shocked at the sight, and in his report of it he has written it in Latin, so that only the learned can read the filthy details.

It would consume more time and occupy more space than the subject is worthy of to detail cases of lewdness, debauchery, adultery, and fornication, so common amongst this people. The negrophilists pretend to believe that their misconduct in these particulars is caused by the white people, but it is not so; they are bestial in all their nature and instincts. I have known one man to have a woman and her daughter, or daughters, at once, and several cases of their keeping their neices, and the most outrageous incest with their own daughters. Masters punished them for these crimes, and endeavored to prevent them, but yet they were perpetrated. I have known wives to be pimps for their husbands, and procure for them such and such young women, or other men's wives, as they might desire. It was a common practice, unless strictly disallowed, for a man to have his wife, or wives, away from home on a neighboring place. It seemed really irksome for them to be forced to have a wife at home, and in a majority of cases they were constantly quarreling and fighting; and when they had wives from home, they always suspected the fidelity of their wives, and the wives the fidelity of their husbands, so they also quarreled and fought. They do not think it wrong to have two or more wives and as many concubines as they can keep up with. Of course, when the men act so, the women do the same. It is nothing uncommon to see every shade of color, from mulatto to very black, amongst a woman's children. I know several colored women with large families of children, no two of them having

the same father. It is a common thing for a married man to take the wife of another man away from him. My cook to-day has four children, all by different men, and she is now the kept mistress of a negro man, who has a wife and children at his own house; and he is one of the colored merchants of this town, and a man in prosperous circumstances. You may ask, are these practices kept up now as much as they were before emancipation? Yes; and worse. During slavery the masters endeavored to force them to observe some decency and some show of virtue; but now, as there are no restraints upon them, they may be said to have turned loose. The officers of the law take no cognizance of such things, and it is nobody's business, nobody cares. It is true they have licenses, because the officer wants his fees, and they go through the forms of marriage, but neither party cares one iota for the marriage obligation, and they abandon each other just as readily and as frequently now as they did during slavery; or more, because then many masters forced them to live together after once uniting. They have a very dim idea of the solemnity of the marriage obligation. In this particular they are very little better than many northern people, especially those of Indiana. Since emancipation, I have known colored ministers to whip their wives, and treat them with as much cruelty as any lawless, vicious negro during slavery, and they were not corrected or punished for it. A few nights ago, a colored husband went home and caught another man in bed with his wife; he attacked the trespasser with vigor, but his wife knocked him down, and took the part of her paramour.

As to willful abortions amongst them, they are far more numerous now than during slavery. Then, if such a thing was found out, they were punished by their owners. I knew of cases of willful abortion, but they were rare, and mostly, if not exclusively, with girls and unmarried women, who wished to conceal their shame. I never was asked by a negro, before emancipation, for medicines to procure abortion, but since then, nothing is more common; and it is not confined to the young

or unmarried, but mostly married women, who do not care to be annoyed with pregnancy and the trouble of bringing forth and nursing children. They suffer but little during gestation, and the pains of parturition are very light, when compared with the white women. This fact is well known to all medical men in the South, and also well known to all slave owners. During slavery, I have known pregnant women to do an ordinary day's work, and have a child that night, suffering apparently no more than a brute. In the course of practice, I see no difference now in that particular.

The knowledge of the abortive powers of the cotton plant (*gossypium herbaceum*) was not generally known to the non-professional population before the war. Its virtues were known to me as early as August, 1841, and the discovery was made by accident. I was having an office built in the edge of a cotton field adjoining my yard, and a sow, heavy with farrow, ate freely of the succulent cotton plants there exposed; she ate leaves, green bolls, and stems, and in less than an hour she dropped her farrow there on the spot, in the presence of myself, the overseer, the white carpenters, my partner, Dr. L. K. Branch, and a medical student, James A. McClure. Since emancipation, the abortive powers of the *gossypium* have become generally known to the colored people, and as they are not restrained by the fear of punishment, nor by any moral or religious scruples, they make free use, not only of it when it is accessible, but also alum, camphor, aloes, borax, savine, as well as over-exertion, violence, etc. Of course, when called on by them for the procuration of an abortion, we tell them of its criminality, being not only against the statute law, but also the law of nature and of God, but they pay no attention to these pleadings, but turn to other sources for the means to accomplish their hellish purposes.

During the first three or four years of freedom, the falling off in the births was very great, as none seemed willing to be encumbered with children; but since that time there is a favorable change, and I am disposed to attribute it to the fact of their

now being allowed to vote and hold office. The women (as well as the men) are buoyed up with the hope that their boys may come to be office-holders, perhaps lawyers, judges, legislators, governors, and perhaps president! It is well known that the hope of being the progenitor, or the mother of *The Christ*, has ever been dominant in the breasts of Hebrew women, and the cause of *all* their craving to be mothers. It is perhaps flattering the colored women, but this is my opinion.

Our State has provided liberally for free schools for the colored children, and this may also have some effect on this subject. They take delight in sending their children to school, and having them read and make a display of their knowledge. There are twenty-five free schools in this county for the colored children, and over 1,300 students. There are two large schools in this town, one taught by a white man, the other by a colored man; some in the county are taught by colored women. They all learn as well as white children, so far as they have advanced, the schools being only primary. A few days ago I overheard a black boy, aged about fifteen, telling a negro man all about J. Wilkes Booth. We were in a bookstore, and they were looking at a pamphlet, "Life of Booth." The boy narrated minutely the killing of Lincoln, the time and place, and then how Booth was followed, where he was found, and how he was killed. He had read the whole thing somewhere, and retained it well and orderly in his memory, and told it very well.

Not long ago I heard a colored preacher, who was discoursing upon the life and conduct of Daniel, the prophet. I was pleased and astonished at his accuracy and minuteness of detail, as well as the graphic and picturesque vigor of his delineation of the occurrences and friendly relations between Daniel and King Nebuchadnezzar. His picture of Daniel in the den of lions, the grief and distress of the King, the exalted faith of the Prophet, and the visit of the King next day at early dawn to the den, and his joy when he heard Daniel answer his call. His congregation was wrought up to an immense degree of excitement, and raised a shout throughout the whole house when

Daniel spoke and gave glory to God for his salvation. See Daniel, vi. chap., 22d and 23d verses. And yet I know that preacher to be guilty of lewdness with women, as well as many other offences and crimes. At that same meeting, as the women became excited, one after another, mostly young women, would spring up from their seats, throw up their arms, jump up and dance around in the aisles, grunt and shout and cry out "*glory!*" "GLORY!!" "GLORY!!!" in regular crescendo, until exhausted. As soon as they began their theatrics, two matrons for each votary, or pythoness, immediately seized hold of them, so as to sustain them and prevent them from hurting themselves or others. I observed that as they became fatigued, they gradually toned down, and then began to go round and shake hands with the brethren around the pulpit, and even invaded that sacred place, and gave the holy salute to the brethren seated there. They shook hands with none of the sisters, however! I saw as many as five at one time going through these unique performances. One of them attracted my attention more than the others, and I asked a man who she was. "Dat dar gal? She name Jinny Ashford. She was jis turned loose fum de penitentiary week 'fore lass!" On another occasion, they were going on in the same way at night, when one of the women, who is a matron, and not exactly handsome, took high umbrage because she thought her performances and salutations were not received with the same unction that some of the other more attractive sisters were, and she spoke out in meeting, gave free expression to her feelings, and as she had furnished the pulpit lamps which were then giving light to the sanctuary, she said she intended to remove them, and made a demonstration to that end, when she was stopped by some one and pacified. An action was brought against her in the Mayor's Court next day, but somehow testimony was lacking, and she was dismissed quietly.

Their ideas of religion are very crude, and so mixed up with superstition, and vague, dim recollections of idolatry, that it is hard to tell what they do believe. It is quite apparent that

they are fond of ceremonials and showy forms. There are two African churches in this town, a Baptist and a Northern Methodist, where they preach and pray and sing and shout with about equal fervor and voice. They are particularly fond of night meetings. They spend the greater part of three nights in every week, and sometimes every night, at these religious services. You can hear some Boanerges or Stentor holding forth, whose voice reaches over a mile; and you can hear the wails and yells and shouts and screams of the repentant sinners almost any hour of the night. But all this preaching and shouting does not make them any better. We have learned that when one of their big meetings is on hand, then is the time we miss our poultry, pigs, hogs, and beeves. Visitors come from a distance, and they must be hospitably entertained, so they draft on the white people to furnish the provisions. A white widow hired a negro preacher (I believe I will not give his name) to hang up her pork in the smoke-house ready for smoking; the children watched him, and detected him in stealing some of the meat, and it was found that he had stolen the amount of two hogs. He got down on his knees and begged her "to forgive him, not to expose him, not to prosecute him; that it would ruin his character and destroy his usefulness as a minister of de gospel of de blessed Jesus!" She let him go.

At a negro church in the country, those who attend in the summer often walk to church barefoot, and put on their shoes and stockings when near the place of worship, thereby reversing the action of Moses, who put off his sandals when on holy ground. Sometimes they take their shoes and stockings merely for the purpose of making a show of their property, and to let people know they have such sumptuous articles of clothing; and when they reach the church, instead of their putting on their shoes and stockings, they lay them under the sacrament table, in front of the pulpit, in full view of the congregation; and when the services are over, they quietly take up the superfluous luxuries and carry them back home, none the worse for wear. On one occasion there was quite a display of shoes and stock-

ings under the table, and the preacher held forth that day with great power, so that the people were overcome with a sense of their shortcomings, their sins of omission and commission; fear seized upon them, and when the holy man of God called on them to flee from the wrath to come; to come up and lay hold on the horns of the altar; come up and be prayed for, there was quite a rush to the mourner's bench. In the congregation was a yellow girl, named Becky Degraffenried, who was one of the very first to heed the call for mourners, and trembling all over, she covered her face with her handkerchief, sobbing as if her heart would break with its load of sorrow, she prostrated herself at the table, in the humble attitude of prayer. There were so many mourners crowded around and over her that she was quite hidden from view. When the benediction was pronounced and the worshippers were leaving, the owners of the shoes and stockings missed some of their hose! Here was an awkward dilemma! What had become of the stockings? A woman, who knew Beck, said: "I knows jes who's got dem stockins! Its nobody else but dat nasty, stinkin' Beck! She's got 'em, and I'se gwine to search her too!" Alas! for human frailty! the stockings were found in Beck's bosom!

Some few of them seem to have notions of religion nearly in accordance with revelation, but ignorance and superstition abound to such an extent that it will be two or more generations before they have proper conceptions of their duty to God. My opinion is, that when the Roman Catholic Church goes to work amongst them, for the purpose of proselyting them, that the majority of them will ultimately become members of that Church, on account of its church government, its many forms and ceremonies, and its display. Honors, dignities, high-sounding titles, etc., are very attractive to them. Many of them are attracted to the Baptist Church by the ceremony of immersion. It is something they can understand, and see its utility. Many of them are attracted to the Methodist Church by the fervor of the worship and the demonstration of the power and the enjoyment of religion. As a general thing, very few are members

of the Presbyterian Church, probably on account of the coldness, the calmness, and the simplicity of its ritual.

They are very fond of attending funerals, and will ride several miles in order to enjoy these lugubrious exercises. It is a common thing now for them to quit work to go and attend the funeral of a person whom they did not know, and whom they would not have nursed in his last illness. It is immaterial whether it be an adult or a child that is to be buried, just so it is a funeral. In slave times, if the master did not dismiss the hands from work to attend a burial, the members of the family of the deceased, and those detailed to perform the duty, would delay the business by various excuses until dark, and every negro on the place would join in the ceremonies with eagerness. Many of them would have torches and lanterns; the old church members would lead in a hymn, and thus forming in procession, they would march to the grave, singing and chanting all the way.

In the summer of 1866, Judge ——, of —— county, Texas, was trying to make a large crop with hired labor, and was of opinion the negroes would do well if they only had a chance. He was in a strain of work, and eager to get through a certain job, when all at once nearly every negro left the place to attend a funeral twenty miles off. When they reached the place the sick man was not dead, and so these people waited two days for him to die, but instead of that he recovered. When they were compelled to return home, without having the funeral, they were very angry, and abused the fellow for not dying. But the Judge had no recourse on them for time lost.

I deem it necessary to notice only a few of the superstitious notions of the colored people, some of them are blended with the superstitions of the ignorant whites.

Everybody has observed their practice of twisting their hair, or wool, with long strings, and it is generally supposed they do this for the purpose of lengthening the hair, but if that were the only object, it could be accomplished as well by simply plaiting it. The real object is to secure them from harm, from

dangers, from bad luck, and, above all, from punishment. During bondage, it was done as a charm to protect them from the lash of the master, or overseer; and you could not do one a greater injury than to shear off those "elfin locks."

If there is occasion to add fire to fire in a hearth, a log heap, or any other place, they invariably spit on the fire they carry in the hand, or on the shovel, before adding it to the other fire; if they fail to do this, some ill luck will surely befall them. If there is any one sick and a dog howls, or an owl hoots, or a screech-owl utters his direful wail on or near the house, it is (with them) a sure forerunner of death. If a hen crows, she must be killed, to prevent bad luck. If a dog howls, turn a shoe upside down and place the left foot on it. If a hare or rabbit runs across their path ahead of them, they immediately stop, make a cross mark in the road, and spit in the cross and walk backwards some distance to prevent misfortune. If a cat, especially a black cat, wallows in front of the door, it is a sign of approaching misfortune. If a bird flies into the house, it is an ill omen. It is bad luck to carry any plantation implement, such as a spade, hoe, axe, etc., on the shoulder through the dwelling. When they stop working with the hoe in a field and leave it, they always lay it prone, otherwise they themselves will not rest easily at home. After interring the dead, the spade, etc., must be left on or by the grave until it rains, otherwise there will be some ill luck. If rain falls in a grave, it is a sign somebody else will die soon and be buried there. They allow nobody to step over their bodies when lying down; if they do, they must step back forthwith. No one is allowed to step across a fishing rod anywhere, across a hoe handle, in fact, any implement of common use.

If lightning sets fire to anything, they will not try to extinguish it, and believe that it can be done only with milk. They consider it is God's fire, and therefore sacred; He sent it, and therefore it must not be checked. They believe in witches and ghosts; in witchcraft and bewitching, which they call *tricked* or *tricky*. They believe that lizzards, etc., can be made to grow in

the stomach, or under the skin, by a necromancer. They believe in love potions and love charms, as well as their opposite.

Much has been said about their longevity, but they are very deceptive about their ages. Seldom any one knows when or where they were born, and they formerly pretended great age, in order to evade work. I believe they are no more remarkable for long lives than the whites. In advanced age some of them turn white in spots and patches, merely from a decay of vital energy. I believe the last of General Washington's body servants is dead.

Having already devoted so much space to details of their crimes and immoralities, it will be unnecessary to say much more.

In slave times they were punished by the masters, if it were deemed necessary, for numbers of the minor crimes for which now they are sent to the penitentiary for from one to five years. Those petit larcenies, adulteries, etc., never reached the public ear through the newspapers. Burglary amongst them then was rare, while rape, arson, manslaughter, or murder, were still more rare, and whenever a case of murder occurred, it was the result of jealousy and adultery in some form. Since emancipation all the courts of the country are crowded with business brought in by the long catalogue of crimes perpetrated by these people. They are all like children; hot-headed and impulsive, thoughtless and indiscreet, needing guardians to keep them in the right track.

Soon after emancipation, they were unwilling to work (and it is not much better yet) and procure sustenance honestly, so they depredated on the stock of the whites. On farms where there were from one to five hundred head of hogs then, in less than twelve months scarcely a hog was to be found. So with sheep and horned cattle. The farmers never have recovered from the loss, and many families which were well off are now in straitened circumstances. There was plenty for all if the negroes had worked and the meat had been carefully used. Men who formerly sold meat in large quantities, now have to buy every

pound they use. As they are allowed to carry and use firearms, they are constantly roaming through the woods, and when they see a fat hog or beef they dispose of them very quickly. They are expert rogues and good hiders. They will aid and abet one another. One night, some three years ago, a negro man killed a fat shoat I had in a pen in my back yard, within fifteen feet of the kitchen and house, where three negroes were sleeping, and got away with it. I feel satisfied that there was collusion between the negroes, and that they divided the meat.

The negroes stole the pulpit lamps from the Methodist Church here, and I suppose took them to some town and donated them to one of their churches. A missionary in South Africa asked some of his sable flock the question in the Catechism: "What is the chief end of man?" When they were made to comprehend the question, one of them answered: "*To steal oxen!*"

So it is in regard to truth and falsehood. If it is impossible to find an honest one, so it is useless to search for one who will tell the truth. It may be thought by many that this is a severe sentence, but those who live amongst them and have had dealings with them, will bear testimony in support of what I say. And yet what a position they occupy in the country. For two hundred and forty years the southern people have been crazy worshippers of these ebon idols. They would give all they had for negroes. Now, for over forty years, the northern people have been worshipping the negro idol.

The condition of the southern people is a very peculiar one. We are beset with troubles unknown to the rest of the world. There are here two diverse races, with the strongest marked differences, trying to live together peaceably, yet each struggling for the mastery. Elements of discord are constantly being scattered amongst us for the purpose of damaging us. Although our old positions and relations are suddenly and so greatly changed, yet if we were let alone we would get along more peaceably together. While the whites are educated and refined and still struggling to improve and elevate themselves in the scale of being, they feel that the colored race is an incu-

bus, an Old Man of the mountain astride their necks, who robs them of the proceeds of their skill and toil, and for whom they must still labor, whether they will or not. The negroes pay no taxes, yet they enjoy everything, as much so as those who pay the most.

We are consoled with the reflection, that the white race was once a savage people, living by plunder and rapine, and we hope that by proper exertions, in a few years, the colored people will be more virtuous, more industrious, and a self-sustaining people. With a united effort on the part of the people and the Government, this thing will be accomplished, and it is a consummation devoutly to be wished, and for which let us ever pray.

Very respectfully yours, etc.,

A. R. KILPATRICK, M. D.

STEVENSVILLE, VA., June 7, 1872.

Dr. E. S. Gaillard:

Dear Sir,—I have been intending for some time to write something for the Journal (more in the way of inquiry than with any expectation of imparting information) on the subject of chills and fever. Can't you get some of your numerous intelligent friends in the South to give their thoughts to this subject? New thoughts on the subject would be exceedingly valuable, and would very much promote the reputation of the originator.

Last fall was a *terrible time* in all Eastern Virginia, and this spring again there has been an unprecedented amount of chills, and in almost every case they recur again and again. Bark quinine, Fowler's sol. hyposulphite soda, mercurials, bitter tonics, *everything*, fails to break the habit.

It is a noticeable fact, that after the cholera in 1849 we were for some years almost entirely exempt from bilious fever. The sickliest situations became healthy, and our people began to congratulate themselves that we were rid of that affliction; but in 1855 it returned, but was never very prevalent until 1862, '63, and '64, when it prevailed extensively, especially among

the soldiers situated on the rivers. In 1869 there was hardly a case of bilious fever in the whole range of my practice, but in 1870 and 1871 it was terrible.

There is evidently a general cause, and also a local, both of which must exist to produce the disease. I have often noticed that, although two families may be similarly situated on the river or swamp, and very near together, that one suffers very exceedingly and the other escapes entirely.

Pardon me for writing so much which may be a burden for you to read. I must, however, renew my request that you induce some one to give their energies and thoughts to the subject.

You know that one or two good frosts arrests the disease. Is it possible to produce the same result by artificial cold?

Very truly yours, B. H. WALKER, M. D.

BROWNSVILLE, HINDS COUNTY, MISS., Aug. 7, 1872.

Dr. E. S. Gaillard:

I have just attended my most tedious case of labor; called twenty hours after accession of second stage; I found the uterus relaxed, with occasionally a just perceptible pain; I gave every ten minutes one drachm fluid extract ergot, until I had given nineteen drachms; I then waited for the accumulative effect of the drug; it did not accumulate. The patient much exhausted. I gave a full dose of morphine, which gave her a quiet, four hours' sleep.

July 6th.—Cotton in full vigor, and growing all around the house; I caused to be made a gallon of the decoction of cotton root, of which a teacup half full was taken every twenty minutes for seven hours. Effect nothing. I had no forceps; I sent for four ounces of wine of ergot; I gave four drachms every thirty minutes, until she had taken seven doses. Delivery fifty eight hours from commencement of second stage; patient now well.

This settles the therapeutic value of cotton root, *in my estimation*, as *nil*.

I have prescribed for two cases of asthma, and one of hay fever; all were well twelve months after discontinuing treatment.

Make daily a strong infusion of *black-haw root*, put this by to cool, and drink no other beverage; continue for six months.

I don't bet high on these cases. If any M. D. tries this, will he please report.

Respectfully,

GEO. SUMRALL, M. D.

A FEW REMARKS CONCERNING A CASE REPORTED BY THE Writer in the "Richmond and Louisville Medical Journal" for May, 1872. By C. P. WHITEHEAD, M. D., Lake Providence, La.

LAKE PROVIDENCE, LA., Aug. 10, 1872.

The editor, in a note, says that my "diagnosis of pseudo-aphonia or pseudo-aphasia is untenable." He further states, "Hallucination, with some cerebral paresis, seems to have been the morbid condition of the patient."

So far in the course of my medical reading (which is but a mite when compared to medical literature) I have not met with the term "pseudo-aphasia." I used the term to express that I believed my patient could not speak on account of an hallucination. I was, therefore, somewhat surprised when Dr. G. repudiated my diagnosis, and called it an *hallucination;* the more so, as I had said in my article that "he (Dr. Bell) agreed with me that it was an *hallucination.*" If I, under the impression I was when writing the article, made a misuse of the word pseudo-aphasia, I will be glad to know it, and try to do better next time.

I now believe with Dr. G., that the diagnosis pseudo-aphasia was incorrect. I believe also that pseudo-aphonia (under which head would come hysterical aphonia) is incorrect.

After examining all authority in my possession, and corresponding with several eminent medical men, I am pretty well confirmed in the opinion I formed soon after the article had been sent for publication—viz., that it was a case of APHASIA.

I think there was a paresis of that portion of the brain which coördinates speech; and that that paresis produced aphasia, and was caused by the abuse of alcohol.

In reference to the ℞. which Dr. G. seems to think Johnston ought to have seen before writing his lexicon, I will say that Dr. H., on seeing Dr. G.'s note, remarked that he intended it for a *rouser*.

I write this short article in no spirit of controversy, save in so far as it may furnish me, and possibly others, with information. I again ask for any remarks upon the subject which may be tendered by any one in a spirit of professional courtesy.

BRANCHVILLE, LINCOLN CO., ARK., April 2, 1872.

Dr. E. S. Gaillard:

Dear Sir,—Every physician is aware of the charlatanism and quackery being practiced, as well as nostrums vended, by most of the leading druggists throughout the country. We cannot justly censure the people for patronizing these *tricky gents;* for a dying man will grasp at anything that promises relief.

So allow me, through your Journal, to suggest an idea, which, if you see proper, you will please answer and call the attention of the American Medical Association to the same; that every physician who has any respect for the Profession, in order to combat the quackery and put an end to the frauds being practiced upon the people, and at the same time to place a better light before them, *contribute small amounts* with which there shall be issued yearly by the American Medical Association a *Physician's Almanac*, for gratuitous distribution throughout the United States. Said almanac to contain such physiological and hygienic instruction and advice as the publisher may advocate.

Very truly yours,

DESLORIDE ANTONIA, M. D.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

CENTRAL KENTUCKY MEDICAL ASSOCIATION—SIXTH REGULAR MEETING HELD AT HARRODSBURG, KY. Reported by A. D. PRICE, M. D., Secretary.

Dr. Brown, President, in the chair. Prayer by Rev. Mr. Torrence.

Dr. McClellan, United States Army, read an interesting paper on "Scarlatina," an abstract of which is omitted, owing to the author not having returned the manuscript to the secretary.

The discussion of the subject was continued, most of the members participating.

Dr. Erwin had seen but little of the disease; could not add anything to the able paper to which he had listened with much pleasure and profit, and, as to treatment, thought favorably of the cold affusion.

Dr. Spilman said that it was very difficult to give one's views upon scarlatina without going over too much ground, as there were so many different varieties and grades of the disease. He had met with many forms of the disease, and thought he was now able to systematize and classify them. The cuticle being very much in the same pathological condition in scarlatina as in erysipelas, he had been induced to treat the former as he did the latter, and with the same gratifying results. Iron he considered a specific in erysipelas; and his favorite prescription in the treatment of scarlatina consists of tincture of iron, quinine, and simple syrup, a portion of which is to be given every two hours. He found this treatment especially useful in the last epidemic that prevailed in this section, converting malignant cases into mild ones. In mild cases he gave but little medicine, depended principally upon hygiene. In throat complications he relied upon chlo. potash, never cauterizing, as he thought he had thus injured his patients.

Dr. Craig objected to the cold douche, as recommended in the paper; he preferred the hot air bath, as it relieved the internal organs by determining the blood to the cutaneous surface.

Dr. Meyer said that the treatment must, as the disease presented so many phases, necessarily vary. He considered the cold douche or wet sheets, as recommended by Niemeyer, good treatment, but would not use it, owing to the difficulty of its constant and rightful application in private practice. Very early in his professional career it was his misfortune to meet with a fatal epidemic of scarlatina. Being fresh from College, and believing in the infallibility of professors' opinions, he went to the bedside, feeling that he had a remedy in ipecac that would prove curative in all cases, but his vaunted specific was a failure. Among remedies of a local character, a stimulating gargle consisting of vinegar, salt, and pepper, is the most essential. He was sorry to see the Profession neglecting two very essential elements in the treatment of this disease—viz., salt and water. If salt cost fifty dollars per pound, it would become a fashionable remedy, be extensively prescribed. Being antiseptic, slightly cathartic, etc., it is a useful adjuvant in the management of this affection; its administration should be commenced early in the disease. Another useful remedy, and but little mentioned by authors, is greasing the patient from head to foot, which lessens the irritability of the skin, decreases the inflammation, and favors recovery. He considered the kidney affection a part of the disease, which should always claim the physician's attention.

Dr. Burdett thought the paper complete, presenting the latest views on the subject. There is a *great disposition* on the part of doctors to say something on such occasions, and they often extol a remedy as being specific when there is in reality no grounds for such an opinion. Erysipelas has been treated by a number of remedies, he had used them all, and found no specific among them; he had seen but little of the disease under discussion, but experience taught him to give as little medicine as possible, as the tendency of the affection was to recovery.

The temperature of the disease runs perhaps higher than that of another; and the great object is the reduction of heat. For this nothing is better than cold water applications; they cool the surface, disengorge the capillaries, and produce diaphoresis. He condemned greasing the patient, thought it bad practice, because it stopped up the pores of the skin, and so far retarded recovery.

Dr. Dunlap had passed through two epidemics of the disease, and found the treatment unsatisfactory. All remedies would fail in malignant cases, while mild ones would get well without anything. He treated patients suffering from this disease upon general principles; he gave sustaining remedies, applied a strong solution of nitrate of silver to the throat when necessary, secured a good flow of urine, and kept the bowels quiet. The great danger of the disease is in proportion to the temperature; and the question is, how can this be best reduced? By cold water applications, or by hot? He was inclined to favor hot water applications, and these had proven more beneficial in his hands, especially among children.

Dr. Spilman was sorry that he had been misunderstood; he was no hobby-rider, but gave this or that remedy as the symptoms seemed to call for. The blood in this disease is impoverished; the red globules diminished; and he gave iron to restore the lost element. He would bleed in cases of anasarca, where the arterial excitement was great, and also purge actively; and his patients would be benefitted by the treatment. We occasionally have patients where effusions take place in the brain, thorax, and abdomen; in such we must bleed quickly and freely, if we desire to be successful.

Dr. Burdett, chairman of the Committee on Progress of the Practice of Medicine, Physiology, and Medical Pathology, made a brief report. This paper was confined principally to the consideration of inflammation and phthisis pulmonalis, contrasting the views of the present with those of the past, and showing what rapid advances had been made within the last few years. Formerly all inflammations, acute and chronic, were treated

with the lancet, emetics, mercurials, and starvation, and the victims of this false theory were numbered by thousands. He well remembered when the illustrious Kentucky surgeon gave his consumptive patients calomel at night, ipecac in the morning, and nourished them with a few ounces of bran gruel through the day. Thanks to an improved medical pathology, the old order of things has happily passed away. We no longer kill our patients by copious and repeated bleedings, by puking, purging, and starvation. We endeavor to build them up by sustaining their strength, improving their appetite, and enriching their blood. He adopted Dr. Williams's views of the pathology of tubercle, and maintained that a large proportion of consumptives ought, under the improved treatment and hygiene of the present day, to be cured or greatly relieved. He thought the prevailing opinion in every community that, consumption is inevitably fatal, is due to the old but false theory that tubercle is the result of inflammation of the lungs, and upon which the active and fatal treatment was based.

Dr. Dunlap reported three cases of cerebro-spinal meningitis.

Case I.—Otha, aged two years and five months, healthy and well developed, was taken Wednesday morning, April 10th, '72, with vomiting and pain in bowels. Saw him at 8 P. M.; vomiting had ceased; pain continuing; stupid, but could be roused; pulse, 130; respiration, 50; temperature, 103° F.; tongue coated with thin, white fur; some red or rose-colored spots on neck and chest. Diagnosis not fully made out, except that the child had worms.

℞.—Chlo. Hyd. Mit., grs. ii.;
Pv. Ipecac, Co.;
Santonini, aa., gr. i.

M. S. At bedtime, to be followed in the morning by castor oil and turpentine.

℞.—Warm fomentations over abdomen.

April 11th.—Medicine has not acted; condition some better; passed in afternoon eight or ten large worms; became restless and nervous, with tendency to convulsions, which soon subsided

under 5-grain doses of brom. potas, repeated every hour. Pulse, 100; temperature, 100.5° F.; respiration, 40; pupils not so much dilated; stupid.

℞.—Same treatment continued.

April 12th.—Pulse, 90; temperature, 100° F.; respiration, 30; some appetite; takes milk and soup. Cerebro-spinal meningitis well marked.

℞.—S. Quinia, gr. ii.;
Pv. Opii., gr. ½.

M. S. Every four hours.

April 13th.—Morning; pulse, 90; temperature, 100° F.; respiration, 30. Evening; pulse, 100; temperature, 102° F.; pupils dilated; stupor; some rigidity of neck, with tendency to opisthotonos; complains of pain when moved; bowels quiet; appetite good.

℞.—Same treatment continued.

April 14th.—Morning; pulse, 90; temperature, 100° F.; expression more natural; bowels distended; moans in sleep. Evening; pulse, 120; temperature, 103° F.; stupor more marked; continued to take nourishment. He continued to grow rapidly worse during the night, and died at 4 o'clock next morning. After death the body presented a mottled appearance, with distinct purple spots over the chest and abdomen. No post-mortem.

Case II.—John, aged three years and eight months, had, April 12th, a chill; vomited; pain in bowels; delirious; pulse, 130; temperature, 102° F.; respiration 40; pupils dilated.

℞.—Chlo. Hyd. Mit., grs. v.;
Pv. Ipecac Co., grs. iii.

M. S. To be followed by castor oil and turpentine, which had to be repeated several times before bowels moved, and then discharge was small.

April 13th.—Symptoms more unfavorable; opisthotonos; violent jactitations; could scarcely be held in bed. Evening; had another chill about noon; high fever following; pulse, 140;

temperature, 104° F.; tongue covered with white fur; bowels distended and painful; kidneys acting freely; pupils dilated; delirious, throwing his hands to his head. No eruption, but skin looks mottled.

℞.—Quinia, grs.ii.;
Pv. Opii., gr. ¼.

M. S. Every three hours.

April 14th.—Head drawn back; stupor amounting almost to coma; hyperæsthesia; complains when touched or moved; pulse, 150; temperature, 104° F.; respiration, 50.

℞.—Quinine and opium continued, chloroform liniment to spine, hot fomentations to bowels, and ice to head.

April 15th.—Condition about the same.

April 16th.—Pulse, 120; temperature, 100° F. in the morning; 102° in the afternoon.

℞.—Same treatment continued.

April 20th.—More rational; takes nourishment well; bowels acted freely this morning; temperature, 104°.

April 21st.—Pulse, 112; temperature, 103¾°; bowels moved naturally; appetite good; pupils dilated; restless occasionally; head not so much thrown back; mottled appearance of skin; no distinct spots except on hips and arms, due to pressure.

℞.—Blister to back of neck; quinine and opium continued.

April 24th.—Condition very much the same; general appearance more natural; deafness becoming well marked; red spots occasionally on face and neck, continuing for an hour or more, and then disappearing; appetite not so good.

℞.—Blister reäpplied to back of neck; other treatment the same.

April 27th.—Pulse, 110 to 120; temperature, 100° to 102°; respiration, 30 to 40; deafness complete; appetite good; bowels move naturally every day; urine scanty; rigidity of the neck continues; growing more feeble.

℞.—Lig. Ammo. Acet., ℥ i., every three hours; Pv. Opii., gr. ¼, every four hours; Tr. Iodine Co. to back of neck.

April 28th.—More feeble; pulse, 120, small; temperature, 103°; wakeful and fretful; blind, deaf, and stupid.

April 29th.—Pulse, 100, small and irregular; temperature, 101°; respiration irregular; unable to swallow; pupils dilated, insensible to light; rose-colored spots on face, disappearing in a short time; a spot on elbow, one on hip, constant, and not affected by pressure.

℞.—Nourishing enema; blister to back of cranium.

April 30th.—Pulse, 115; temperature, 99.5°; able to swallow; pupils fully dilated, insensible to light; eye-lids remain open. He continued to grow worse till May 8th, when death took place without a struggle.

Case III.—Lula, aged six years; healthy; was taken April 15th with vomiting, pain in the forehead and back of neck, with tendency to opisthotonos; pupils dilated; pulse, 130; temperature 102°; respiration hurried; tongue red on edges, coated in middle.

℞.—S. Morph., gr. $\frac{1}{8}$, every four hours; ice to head and spine.

April 16th.—Pulse, 130; temperature, 103°; respiration, 40; pain in head more severe; hyperæsthesia; neck rigid; petecchial spots on neck and chest; bowels constipated; urine free.

April 18th.—Condition the same.

℞.—S. Quinia, grs. ii.;
Pv. Opii., gr. $\frac{1}{4}$.

M. S. Every four hours.

April 19th.—Neck more rigid; opisthotonos more marked; pulse, 130; temperature, 102½°.

April 21st.—More rational; pupils more natural; eyes injected; pulse, 110; temperature, 102°; respiration, 20; petecchial spots fading; tongue not so red; appetite better.

℞.—Same treatment continued; nourishing diet.

May 2d.—Stomach quite irritable; cephalalgia great.

℞.—Blistered stomach and back of neck.

May 12th.—Pulse, feeble; temperature, 102½°; pupils dilated, insensible to light; stupor; stomach rejects everything.

℞.—Blister to forehead; reäpplied over stomach and to back of neck; stimulating and nourishing enema.

May 19th.—Rational; appetite better; bowels move naturally; kidneys act freely; vision improving. From this time she continued to improve, and was declared convalescent on the 25th. Her recovery has been complete.

These cases occurred three miles north of Danville. The location is, to all appearances, healthy; no indications of malaria, save a pond situated about two hundred yards from the house, into which the children frequently waded. In the family there were two children older than those that were sick in bed; and there were besides, four other children (cousins to the sick) living in a house in the yard. Those that were sick having been taken down—one on Wednesday, another on Friday, and the third on Monday; and fearing that the disease might run through the whole family of children, the parents were advised to remove the six well children, which was accordingly done. They had no untoward symptom, save an occasional headache.

In January, 1871, the disease prevailed in a family of negroes, twelve to fourteen in numbers. When I first saw them, one had died, another was dying, and a third was dangerously ill. Shortly afterwards, two others sickened and died in a few days. There were three children left in the family—one a suckling babe, which had the disease slightly. The other two were removed, and escaped with a slight attack. The question of its contagiousness or its infection has not been settled. The above-mentioned persons that were removed from the seat of the disease, escaped entirely, or had the affection but slightly. Judging from my experience, I consider it right and proper to recommend isolation in all cases where it is practicable. The treatment of the disease is unsatisfactory. Have used ergot, but to no effect; have never administered it in combination with tr. calabar bean; would recommend the mixture on the authority of Prof. Davis. In all the bad cases that recovered under my care, the following plan of treatment was pursued: Cold applications to head and spine in first stage; opium admin-

istered by mouth or rectum; blisters to back of neck or over the whole scalp; chloroform liniment to spine. In very young children, with much spasmodic tendency, brom. potas., grs. v. to x. every one, two, or three hours.

Dr. McKee, in his remarks on the cases reported, said that he did not believe the disease contagious, had seen twelve or fourteen cases in all, some were in town, some were in the country; no two in the same family. The disease is due to some peculiar blood poison (non-specific), the nature of which is unknown.

Dr. Forsythe had treated several cases of the disease; did not consider it contagious. While residing in Harrison county, he treated four cases, three of whom died. He had met with three cases in Mercer, one of whom died. He relied, in the management of the disease, upon quinine and opium.

Dr. Lapsley presented a paper on "Puerperal Convulsions," in which the subject was reviewed at some length, but nothing new advanced.

Dr. Erwin presented a specimen of mono-bromated camphor, useful in hysteria, insomnia, delirium tremens, etc.

Dr. Brown presented a specimen of cancer of the stomach.

Dr. McRoberts presented resolutions in reference to the late Dr. Welch, deceased.

Dr. Dunlap presented a memorial address on the life and death of Dr. Pawling. Dr. Pawling was born near Georgetown, Ky., September 1797, was the youngest of three children, and partook of his mother's qualities of mind and disposition, to whom he, in after life, affirmed that he was indebted for wholesome advice, sound teaching, and for whatever contributed to his successful career. At the age of nine years, his mother removed to Lancaster, Ky., where he enjoyed educational facilities, and obtained a good primary education, including a knowledge of Latin and Greek. In his eighteenth year he commenced the study of medicine in the office of Dr. Ben. Mason, of Lancaster, under whose care he remained for over three years. In 1818 he made his way, partly on horseback, partly by stage, to Philadelphia, where he spent the winter, enjoying the advan-

tages of instruction from such men as Rush, Chapman, Wistar, and Physick. Owing to circumstances over which he had no control, he never graduated in medicine. He commenced his professional career in Lancaster, but in a few years moved to Harrodsburg, where he remained till 1833, when he went to Lexington. Soon after his arrival in Lexington, the cholera made its appearance in a most violent epidemic. He did not flee for safety, but stood bravely at his post, fulfilling his professional obligations by battling with the terrible scourge, that carried off its victims by hundreds. And when cholera made its appearance in a neighboring town, and when every one of its physicians fell victims to the disease, he hastened to the scence of pestilence and death to aid and comfort suffering humanity. During these trying times he gave such evidence of professional skill and attainments that the honorary degree of Doctor of Medicine was conferred upon him by Transylvania University, and also by the Medical College of St. Louis. In 1813 he moved to Danville; here the writer knew him most intimately. He was polite and respectful to all, gentlemanly and ethical in his bearing, alive to the interest and welfare of his Profession, and ever ready to further it. He was among the foremost in the reörganization of the State Medical Society, and was its honored president in 1868. In the Boyle County Medical Society he took a deep interest, was its first president, and made every exertion to advance its interests; he was also among the first to second the move in the establishment of the Central Kentucky Medical Association. He was ever active in his profession, in which he labored for fifty-four years. He died, with his armor on, April 4, 1872. Thus passed from this stage of existence Dr. William Pawling, a kind, noble, generous spirit, to that haven of rest where the "wicked cease from troubling and the weary are forever at rest."

The Association adjourned, to meet at Stanford Wednesday, 17th October, on which occasion Dr. Baily opens the discussion on the therapeutic effects of Mercury, and Dr. McClellan reports on the Progress of Surgery and Surgical Pathology.

CASE OF PULMONARY ABSCESS. By A. J. WATSON, M. D., Mayfield, Ky. [Read before the Southwestern Kentucky Medical Association.]

January 5, 1870, was called to see G. L. C., aged thirty-one, tinner by occupation, and obtained history of his case, substantially, as follows—viz.: Had been sick and confined to room and bed about one month, and under treatment during that time; was first attacked with severe cold from exposure in the rain, severe cough, expectoration, and hectic fever supervening, more or less pain constantly in the right lung; had frequently been the subject of gonorrhœa previous to this attack, and was then suffering from a recent attack; first commenced suffering from stricture of urethra about this time.

I found my patient much prostrated from colliquative sweats, hectic fever, and excessive expectoration from a large, well-marked and well-defined abscess of the lower half of the right lung; the discharge amounting every morning to from a half to a pint of pus in the course of a few hours, after which the discharge would measurably cease till the next morning. He had also had more or less trouble from stricture of the urethra, and there was also a frequent discharge of pus, say from one to two drachms, from the bladder, following the evacuation of urine; pulse usually frequent, small, and thready, and easily compressed; tongue heavily coated; complexion cadaverous in the extreme; the whole expression of the features partaking largely of the hippocratic caste. These were the most striking features and symptoms prevailing in the case for the first two weeks the patient was under my care, during which time he was, in general terms, on the use of tonic and alterative remedies, together with alcoholic stimulants and nourishing diet, whenever he could be induced to take it, which was not near as frequent as I desired, nor when taken, in as large quantities as I wished.

About the 15th he began to complain of great pain in the region of the right kidney, and on the 19th I discovered a soft, fluctuating tumor, the prominent or pointing part of which was

about the size of a half section of a hen's egg, the centre of which was one and a half inches in front of the spine, and two inches below the last short rib.

I should have stated that the expectoration of pus began to diminish sensibly in quantity about the time that complaint was first made of pain in the lumbar region, and on the 19th, when I first discovered the tumor, had almost entirely ceased.

After due deliberation and consultation with several medical friends, I determined, on the 21st, to open the tumor, which I did in their presence. Cautiously and by repeated strokes of my bistoury, passing down into the natural integuments of the part, intending not to wound the peritoneum by any means, unless I should find that adhesive inflammation had already united it to the tumor and the parts to be cut. At the depth of a little over one inch from the surface, however, my knife ceased to meet with resistance, and was followed by a gush of dirty, dark, sanious pus, which continued to pass almost constantly for twelve or fourteen hours, saturating clothing, bed, and everything else about the patient. I have no means of knowing how much was discharged, but it must have been enormous, for the time mentioned. My probe readily passed in to the depth of three inches, passing inwards and slightly upwards.

I now determined, still keeping my patient on the use of tonics, stimulants, and nourishing diet, to keep the orifice I had made open, and excite, if possible, adhesive inflammation of the walls of the abscess by means of stimulating injections, and to this end I treated the abscess once a day to an injection of from four to eight ounces of tinct. cinchona. Always after allowing the injected fluid to pass out, I carefully plugged the orifice with a wedge of slippery-elm bark, securing and holding it in place by means of adhesive strips and roller. The use of this injection was continued without causing any pain or inconvenience to the patient, or any sensible effect on the discharge of pus, which continued profuse until the 4th of February, when I adopted in its stead the tincture of iodine, in the proportion of one drachm of the tincture to seven drachms of water. On

using this injection the first time, I forced the fluid in as fast as I could, intending to fill the cavity with it; but to my great surprise the patient, when I had thrown up about six drachms, commenced coughing furiously, sneezing, gasping for breath, and seemed almost suffocated, when I moved my syringe from the orifice, allowed the fluid to pass out, and in a few minutes all the distressing symptoms passed away, and he declared that he could taste the iodine while coughing as sensibly as though he had taken it in his mouth.

February 6th.—Again injected solution of iodine, with the same effect as at first, and from this time forward this injection was used once in every two or three days, the patient always bitterly opposing its use, on account of the distressing symptoms it always produced, until the 20th of February, when it ceased to produce suffocation and coughing, the patient in the meantime graduaily improving, and the discharges lessening in quantity every day. His recovery continued gradual and steady, and on the 7th of March he was discharged from treatment, with the external wound healed.

To my mind this case embraces several points of great interest: First, the great amount of lung and other tissue that must necessarily have been involved. Second, the very unusual manner in which the contents of the abscess were evacuated. Third, the probable route by which it reached the point where the incision was made, and the tissues through which it must necessarily have passed. And fourth, could there have been any connection of any kind between the abscess of the lung and the discharge of pus from the bladder, and where was the pus discharged from the bladder formed.

I think it would be wrong in me to close the account of this case without stating my opinion, that amongst all the various tonics employed, I think I derived as much or more benefit from a syrup of the hypophosphites as any other one remedy used.

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

THREE CASES OF GUN-SHOT WOUND OF THE BRAIN. By CARLISLE TERRY, M. D., Columbus, Ga. [Presented to the Georgia Medical Association, at its Annual Meeting, in Columbus, 1872.]

The following cases, never having been reported, may prove of interest, as showing how severely the brain may be injured, and recovery follow:

CASE I.—Occurred at the battle of Shiloh, on the 7th of April, 1862. A boy about eighteen years old was brought to me, at Shiloh Church, who had been shot while lying down on the skirmish line. A minnie ball had entered his head a little to the left of the sagittal suture, midway between the coronal and lambdoidal, and passed downward and backward to the base of the brain. I passed my finger into the orifice its full length, but could not reach the ball. However, I removed some spiculæ, and calling the attention of Dr. J. C. Nott, who was operating near me, to it, we both concluded that it was a fatal case, and merely ordering cold-water applications, left it.

To my surprise, some three days after, the boy was brought more than twenty miles over a terrible road to Corinth, and put in my hospital. I placed him in Ward A, under charge of Assistant Surgeon Frank Hawthorne. His right side was then paralyzed, and speech somewhat impeded. The brain wound discharged largely of pus and brain matter; but under the careful treatment of Dr. Hawthorne, he gradually improved; the wound closed; and when we evacuated in May (27th), he was walking about, with only a stick, and was sent home with a discharge.

CASE II.—On Sunday, April 7, 1862, J. R——, at the battle of Shiloh, was struck just over the left eye with a rough iron canister-shot, which penetrated the brain, but stopped just inside the skull. On the fifth day after, he was brought *in a*

road-wagon, over this same bad road, to the hospital. His pulse was strong and full, at forty to the minute; pupils largely dilated, but mind perfectly clear; appetite good; courage firm, and no paralysis.

The next day, in the presence of Dr. Foard, Stone, Choppin, and a number of others, I removed the shot. He stated that several attempts had been made on the field; but as upon the slightest touch brain matter would pour out and the ball give way, it had been left as it was. Turning back flaps of the frontal muscles, I pinched off pieces of the brow—as the orifice appeared to be smaller than the shot—until I could introduce a scoop and throw out the ball, which presented a very rough ridge around it where the wounds had imperfectly closed, and a neck on each side where it had been broken from others. With the shot came out some two or three tablespoonsful of brain matter and many spiculæ. The wound was simply dressed, and the cure progressed favorably. The young man was walking about his ward in less than a week, although his pulse did not rise to its natural standard for sometime longer. In three weeks he was sent home to Mississippi, apparently well, except that the wound still discharged some.

CASE III.—Occurred at the siege of Corinth. J. S. R——, private in Wirt Adams's Cavalry, was shot on the 18th of May, 1862, while on duty before Corinth, some six miles from town; was brought in an ambulance after night and deposited at the Tishamingo Hotel Hospital; but having before been in the Academy Hospital, and as the driver would not bring him on, he walked a quarter of a mile over a bad corduroy road, in the dark, and arrived, at 11 P. M., at the hospital.

Examination disclosed that a minnie ball had entered the frontal bone at very near the centre of the forehead. The index finger could readily be passed its whole length toward the occipital bone, so that the ball must have lodged against that bone. The wound was cleared of spiculæ and loose brain matter, and cold-water dressing applied. As in case second, the pulse was slow and full (forty-five, I believe), but no paralysis

or mental disturbance. Good appetite, and spirits buoyant. Case progressed very favorably until we evacuated, on the 27th, when he was sent to Jackson, Miss., without a bad symptom, and the case passing out of my observation, I never heard the termination. His chances, however, appeared much better than those of the first case, and I have no doubt but that his recovery was perfect.—*Atlanta Med. Jour.*

Intestinal Worms. By William Date, M. R. C. S.

Although it is probable that worms in the human intestine never cause the death of their host, yet they undoubtedly often give rise to symptoms of an alarming character. Moreover, they are so common and so disagreeable in their effects that it may not be out of place to consider the different species met with in this country, the symptoms they cause, and the treatment they require. Many of these cases, either from the real nature of the symptoms being overlooked or from being considered beneath the notice by a regular practitioner, fall into the hands of quacks. These persons, by drastic remedies, succeed in expelling the worm, often without curing the patient, and reap all the credit of success. I have resided for some years in places where intestinal worms were prevalent, and have thus been led to devote some attention to their nature and to a trial of various remedies recommended for their relief; and I propose to lay the results at which I have arrived before the readers of "The Lancet."

There are only four species of intestinal worms commonly met with in this country, and which now need to be considered. These are: the Tæniæ or tapeworms—viz., Tæniæ solium and Tæniæ mediocanellata; the Ascaris lumbricoides, or long round worm; and the Oxyuris vermicularis, or short thread worm. The long thread worm (Trichocephalus dispar) is also said to occur frequently. If so, the symptoms caused by its presence are indefinite, and, owing to its small size and brownish color, it

escapes observation. The broad tapeworm (Bothriocephalus latus) is common in Switzerland and northern Europe, but is never seen in this country except in imported cases.

The two indigenous species of tapeworm have a considerable general resemblance, and are often confounded one with the other. Tænia mediocanellata may, however, be easily distinguished from Tænia solium by the flat head, absence of hooklets, and by the larger size of the joints. In consequence of this distinction not being observed, T. solium was formerly supposed to be much the more common of the two in this country. It is now conceded that the reverse of this is the truth. Practically there is not much gained by distinguishing the species, as there is not much difference in the symptoms, and the treatment is the same for both. T. mediocanellata is rather the more robust and difficult of expulsion.

The old notion of the spontaneous generation of worms in the intestinal mucus is long since exploded. Thanks mainly to the patient investigations of the German helminthologists, the general conditions under which tæniæ originate from ova, grow and arrive at maturity, have been accurately noted and recorded in all the stages of their development. The ova are never matured in the human intestine, but are discharged either in the parent proglottis or in a free state. After a sojourn on the face of the world more or less brief, during which embryonic formation takes place, they are swallowed by swine or by cattle. In the intestine of their new host the embryo becomes released by the solution or rupture of its envelope, and, by means of a boring apparatus, penetrates its way into the muscles of these animals, where it becomes encysted. In this state it forms the "cysticercus" or "measle," which, in pork, is the larval condition of T. solium, in beef and veal, of T. mediocanellata. These cysticerci, when swallowed by man, become developed into the mature animal of the respective species. Besides pork, beef, and veal, it is possible that certain parts of the sheep may be the medium for the introduction of tapeworm. The embryo of T. serrata, swallowed by sheep, becomes encysted

in the muscles, or bores its way into the brain, and there becomes developed into the Cœnurus cerebralis, the cause of that peculiar disease called the "staggers." This cœnurus administered to dogs develops into T. serrata. Now Von Siebold says that T. serrata is only another form of T. solium. If so, then the cœnurus might be the cause of T. solium in man.

A great outcry has recently been raised against sewer-raised produce as a medium for the dissemination of entozoa. Whether this charge is just is far from certain; but, inasmuch as it is supported by a practical helminthologists like Dr. Cobbold, it certainly demands investigation. It is said that the ova floating in the sewage adhere to the crops, and are thus swallowed by the animals fed upon this produce. I cannot, however, see that ova are more likely to be transported on to the land in liquid sewage than they are in solid manure. The contents of our cesspools or the refuse of our dry-earth closets must be equally liable to contain them, and it appears to be at least questionable whether they would not adhere as readily to the roots or stems of plants when conveyed in the latter medium as in the former. Nor am I aware of any positive evidence brought forward to support the charge. On the other hand, Dr. Cobbold himself has recently dissected and examined with minute care a cow reared and fattened on sewage-grown produce alone, and he has, with great candor, admitted that the animal was entirely free from internal parasites of any kind whatever. Although Dr. Cobbold afterwards endeavors to explain away the force of this absence of entozoa and to lessen its influence on the controversy, there appears no reason to doubt that it is a fact of great weight, and forms a piece of evidence of much importance to the defence.

Patients suffering from tapeworm sometimes present a characteristic appearance which is easier to recognize than to describe. There are dark circles around the eyes, a white and pasty complexion, enlarged pupils, an absent, purposeless expression, with a hesitating manner and unsteady gait, giving a general impression of languor, both mental and bodily. There is often a pe-

culiar "sinking" sensation about the epigastrium, with nausea and faintness. Pain is often complained of, and is described as being of a gnawing character. The appetite is capricious—sometimes voracious, sometimes the reverse. The tongue is generally pale and flabby. Females frequently suffer from derangement of the uterine functions and palpitation of the heart. Dr. Graves mentions a case in which a cough which long resisted treatment was speedily cured by the expulsion of a tapeworm. When the symptoms point to tapeworm as their origin, the motions should be examined for a few days. As a separation and discharge of the caudal joints is a frequent occurrence, their appearence will often decide all doubts.

Many are the remedies which have, at one time or other, been recommended for tapeworm. It is only necessary here to refer to two or three of them. *Turpentine* acts with a considerable degree of certainty, but, if given in an effectual dose, is apt to produce disagreeable intoxication and strangury. *Kousso* was at one time a fashionable remedy. It is not easily obtained genuine, (perhaps for that reason) is uncertain in its action and not to be relied upon. *Kameela,* a powder which consists of minute glands from the capsules of Rottlera tinctoria, has been highly lauded. It is said to be certain and speedy in its effects, and not more unpleasant in action than an ordinary purge.* I have tried it in a few cases, and found, when given in effective doses, that patients complained of the severe griping pain which it induced. Dr. Garrod says he has found its active purgative properties rather objectionable.† For the last few years, I have been accustomed to rely entirely on the ethereal tincture of the root of rhizome of the male shieldfern (*Aspidium filix mas*); and, when properly administered—i. e., after due preparation of the patient, I have found it thoroughly efficient. Sometimes, however, it requires a considerable amount of persuasion to induce the patient to submit to the necessary restrictions, which are certainly by no means pleasant nor always con-

* Aitken: Science and Practice of Medicine, vol. i., p. 909.

† Garrod: Materia Medica, p. 319.

venient. No food must be taken after breakfast except mutton-broth or tea. In the evening the patient takes a brisk dose of castor oil or compound senna mixture. The object of this is to clear away accumulated mucus, and expose the worm to the full action of the vermifuge. The following morning, early, one drachm and a half of liquid extract of male fern, rubbed with half an ounce of mucilage, should be taken in about two ounces of milk. It is better to lie quiet for two or three hours after taking this dose, otherwise it is apt to cause nausea and faintness. At the expiration of that time another aperient dose should, if necessary, be administered, since the male fern itself does not always purge. Milk is the favorite food of the worm, and is therefore the best vehicle for the administration of the medicine. It is commonly recommended to be taken as food the day before. I regard this as a mistake, as the animal becomes satiated with it, and is thus more likely to avoid the poison. Nothing but broth or tea should be taken until the bowels have been evacuated, unless it be a little brandy and water in case of faintness. After undergoing this ordeal the patient may be allowed a week's rest. The whole process should then be repeated. This time perhaps no fragments of the worm will be expelled. I have given the male fern in several cases with perfect success after other remedies had failed. In no instance have I found it necessary to give more than three doses, although I always give one dose after any joints are expelled. Generally the whole of the worm has been killed by the first dose, and thus only two doses have been required. It is seldom the head can be found, owing to its small size, and, perhaps its maceration in the intestinal juices. The discovery of some of the smaller joints may be regarded as tolerably satisfactory evidence of the destruction of the worm.

Being satisfied as to the entire expulsion of the worm, the next thing is to prevent the development of others. For this purpose two indications are to be observed: 1. To avoid the introduction of living embryos. 2. To restore the tone of the intestinal mucous membrane, so that it may not offer a favor-

able nidus for their development. *No meat should be eaten which has not been thoroughly subjected to the action of heat.* It is clear that tapeworms cannot originate *de novo* in the intestine. It may not be possible always to avoid the "measle," but we may always kill it by fire and render it innocuous. To fulfill the second indication, nothing is more useful than a mixture of nitro-hydrochloric acid with a bitter infusion. If there be much anæmia, as there often is, a few minims of tincture of perchloride of iron may be added to each dose, as in the following mixture: Dilute nitro-hydrochloric acid, three drachms; tincture of perchloride of iron, a drachm and a half; syrup of oranges, half an ounce; infusion of quassia to eight ounces: Take one ounce three times daily. At the same time general hygiene should be well attended to. The diet should be plain and nourishing. A daily sponge bath will be of service.

The natural history of ascaris lumbricoides, although pretty well understood, has not been placed so entirely beyond all doubt as that of tapeworm, since it has not been accurately traced through all the stages of its development. Some of its changes of condition have been observed; but one link in the chain is still wanting. The sexes are separate (unlike tæniæ), the female being rather larger than the male. The ova are never matured in the human intestine. They leave their first habitat in large numbers, adhering to the fæces, and are wanderers upon the face of the earth for an indefinite period, until they find favorable conditions for the first change which they undergo, which consists of segmentation of the yelk and formation of the embryo. This may not take place for months after their expulsion. The embryo is enclosed in a thick, tough envelope, which resists wear and tear, and preserves its occupant during the vicissitudes to which it is exposed. So far all is clear enough; but the next stage is still doubtful. It is by no means certain whether they pass now into the human intestine and there develop into the mature animal, or whether they undergo a previous metamorphosis in the tissues of some other host. Judging from the analogy of tæniæ, we might expect

the latter to be correct. It is possible, however, that they find an entrance, floating in drinking water or adhering to imperfectly cooked vegetables.* Any way, there is no difficulty in understanding the prevalence of this worm. Dr. Eschricht has calculated that the mature A. lumbricoides contains the almost incredible number of 64,000,000 of ova. Looking at the immense number of these which must be expelled, to find their way on to our fields and into our rivers—remembering the thick envelope in which they are enclosed, and by which they are so efficiently protected—remembering the long time during which they may remain dormant, but ready to spring into active life the moment a favorable opportunity arrives—remembering their small size, which shields them from observation—taking all these things into consideration, we are driven to the disagreeable conclusion that the ingestion of these ova must be an exceedingly common occurrence, and that it is only the general absence of favorable conditions for their development which prevents them from being much more frequent guests of humanity than they actually are. Let them only find a collection of mucus or some other favorable nidus, and they will soon take up their abode and quietly spend the remainder of their existence, or, at least, remain until they receive summary "notice to quit."

Tapeworms are more frequent in adults—most frequent in females. Round worms are more common in children than in grown-up people; and, as might be expected from the more delicate nervous organization of the former, the attending symptoms are often of a more serious character. It has been the fashion of recent writers—for there is a fashion even in matters medical—to assert that worms, of themselves, never give rise to symptoms of any kind. This view, no doubt, is a reäction from the old notion which attributed to intestinal worms all sorts of extraordinary phenomena. The truth, as is so often the case, seems to lie between the two extremes. I have re-

* There is some evidence in favor of this view. See "Science and Practice of Medicine" by Dr. Aitkin.

peatedly seen cases in which the expulsion of the worm has been followed by a relief of urgent symptoms so immediate and so marked, as to convince me that the worm itself was the cause of the mischief, and this without any evacuation of mucus or fæces sufficient to account for the change. On the other hand, it cannot be denied that worms may and often do exist in the intestinal canal, even of delicate children, without giving rise to any very special symptoms. It may be that reflex irritation is induced only in children of very excitable temperament, or in certain peculiar states either of the general nervous system or of the intestinal mucous membrane. Certainly the gravity of the symptoms does not appear to depend on the number of the worms, except in those rare cases where they have multiplied to such a degree as to cause obstruction of the bowel. In children we generally find some or all of the following symptoms: The appetite capricious. Pain of a gnawing or griping character; even where this is not complained of, deep pressure often reveals an unnatural degree of tenderness. There is often a tumid condition of the belly. The state of the bowels varies; commonly there is constipation alternating with attacks of diarrhœa, sometimes severe, a considerable quantity of slimy mucus being discharged, followed by great relief. In rare cases blood is passed. These worms are often expelled during the progress of enteric fever, and, according to my experience, the expulsion is often followed by a relief of the more urgent bowel symptoms.* The tongue is pale, flabby, indented by the teeth, and often has a peculiar shiny appearance. The pupils are generally dilated. Squinting sometimes occurs, and nervous twitchings, sometimes almost amounting to chorea. Even convulsions may supervene. The sleep is restless, the child grates his teeth, and often awakes suddenly with a startled expression and cries. Fever often runs high and assumes the remittent type, with great heat of skin. In short, the symptoms often resemble those of hydrocephalus. The cases under consideration may be distinguished from the latter by the more distinct

* I have seen the long thread-worm expelled in like manner.

remissions; by the previous hystory, showing the primary symptoms to be referable to derangement of the alimentary canal; by the less obstinate character of the constipation; and, finally, by the expulsion of the worm. Other cases may simulate tubercular disease; but here, again, a careful consideration of the symptoms will clear up the diagnosis. Thermometric observations are particularly valuable. In tubercular disease, the temperature, although it may vary, is always above the natural standard; in these cases the temperature is either normal or the elevation is only temporary. The above symptoms are not to be observed in all cases, and are often very obscure. When many or most of them exist, without any other apparent cause, we shall be justified in administering an anthelmintic. The appearance of a worm will set all doubts at rest. Dr. W. H. Ransome* recommends a microscopic examination of the fæces for the ova. To those possessed of a microscope, with the necessary skill and time for its use, and a stomach strong enough to face the required manipulations, this, no doubt, is the most satisfactory method of diagnosis.

The best remedy for these cases is *santonine*. It stands *facile princeps*, and, if properly administered, may be said to be a specific. It may be given either in a single full dose, or in repeated smaller doses. I prefer the latter method. A large dose is apt to produce disagreeable symptoms; such as irregular pulse, singing in the ears, vertigo, and nausea. There is sometimes partial suppression of the urine, but this is always temporary. Sometimes all objects appear of a green color. The urine is invariably of a cloudy orange appearance, changed by liquor potassæ to a bright-red. Dr. Sieveking has recorded a case in which severe urticaria twice followed the administration of a very small dose to a child four years old; and he refers to a case reported in the "Annales de Thérapeutique" for 1852, in which a child of the same age, "after taking three grains of santonine, experienced severe abdominal pains, vomiting, purging, great prostration, cold sweats, spasm of the extremities,

* A System of Medicine, by Dr. Reynolds, vol. iii., art. Intestinal Worms.

and dilated pupils; but ultimately recovered." These cases are doubtless quite exceptional. Nevertheless, it is better to avoid the risk by giving repeated smaller doses; which, indeed, are quite as effectual. Thus, for a child five years old, I should order three or four grains every night at bedtime. A slight tea of mutton-broth with very little bread may be allowed, but no food after this. The powder must be taken in dry sugar or honey, and no liquid swallowed immediately after. I have found it more efficacious when this caution is observed. It may be that the drug is not so readily absorbed by the stomach as when dissolved in liquid, but passes on into the bowel, to exert all its effects upon the parasite. Before giving the santonine the bowels should be well cleared out by a brisk purge. Nothing is better for this purpose than the old mixture of salts and senna, as in the mistura sennæ co., which acts so efficiently on the small intestine. The powder should be taken every night for a fortnight; and, as it is not of itself aperient, it may be necessary occasionally to repeat the dose of compound senna mixture. It is not sufficient, however, merely to dislodge the worms and pronounce the case cured. The morbid condition of the mucous membrane, which favors their development, still remains, and must be dealt with. It is probably a neglect of this precaution which occasions the numerous cases of relapse which one sees and hears of. To restore the tone of the intestine and prevent the reäccumulation of mucus, the treatment is the same as after tapeworm. At the same time we should endeavor to prevent the introduction of living embryos. If there is any suspicion about the drinking-water, it should be boiled and filtered. All vegetables, as well as meat, should be thoroughly cooked. Salads, therefore, are to be avoided. General hygienic measures are specially to be looked to.

The short thread-worm (Oxyuris vermicularis) inhabits the lower bowel. Its life history is not clearly determined. Except that embryonic formation takes place before the ova leave the intestine, the different metamorphoses probably differ but little from those of A. lumbricoides. Short thread-worms may exist

in considerable numbers without their presence being marked by any very striking symptoms; but they generally excite a good deal of local irritation, and, by the intolerable itching which they occasion, they render the patient's life miserable. They are often most annoying in bed, or after particular articles of diet, such as onions, carrots, and some kinds of fruit. These might possibly act as prophylactics. In females they sometimes escape into the vagina, and cause troublesome leucorrhœa. They may always be detected in the stools. They often coëxist with the large round worm; hence the presence of the one should always lead to inquiries for the other. Beyond the local irritation which they occasion, and which is often annoying enough, thread-worms do not cause much harm. In children, however, they are often attended by a lax state of the rectum; and this, with the straining which they induce, sometimes results in prolapsus ani.

As oxyures infest the lower bowel, they are best reached by enemata. Of these, one of the simplest, and by no means the least efficacious, is a solution of common salt in infusion of quassia, in the proportion of two ounces to a pint, given every morning. Where this treatment fails in entirely dislodging them, they are probably resident high up in the colon. It is then advisable to continue the injections, and at the same time to administer by the mouth small doses of aloes, in combination with iron and quinine. The following forms a useful pill for adults: Sulphate of iron, sulphate of quinia, aloes pill with myrrh, compound galbanum pill, of each one grain; to be taken three times daily. For children, wine of aloes, with syrup of ginger, may be ordered. If this treatment be continued for a fortnight or three weeks, the patient will rarely be further troubled with the annoyance. As the life history of these creatures is probably analogous to that of A. lumbricoides, the same preventive measures may be adopted. In addition to these, scrupulous cleanliness must be enjoined, in order to avoid the risk of self-infection by the ova lurking in the folds of skin near the anus.

I have thus gone through most of the *practical* bearings of this subject. I might, had space permitted, have selected from my note-book some interesting illustrative cases. It may be objected by some that a knowledge of the life history of entozoa does not assist in their expulsion; but the higher province of the physician is the prevention, rather than the cure, of disease; and, as a means to this end, a knowledge of the origin and growth of these creatures becomes of the highest practical importance: "Ista quoque naturæ rerum contemplatio, quamvis non faciat medicum, aptiorem tamen medicinæ reddit."—*Lancet.*

Cure of Strangulated Hernia by Aspiration.—M. Demarquay communicates to "Le Mouvement Medical" a case of successful reduction of and recovery from strangulated congenital inguinal hernia by means of aspiration. A young man, thirty-one years of age, after fatigue during the 5th of May, while on a visit at Vermillion, was suddenly seized with colic, attended by frequent vomiting; a tumor of considerable size at the same time had formed in the left groin. On the following day these symptoms continuing, he was taken to the surgical *servir* of the *Maison de Sante*, where the *interne*, having unsuccessfully employed the taxis, applied a bladder filled with ice, and waited for the morrow. On the morning of the 7th the patient was seen by M. Demarquay. He was then feverish and thirsty; the tumor voluminous, and it was seen that its precise nature was that of strangulated congenital hernia, of which M. Demarquay states he had never previously successfully treated a case by operation. The employment of the taxis having failed, the patient was put under the influence of an anæsthetic, and again the same measures taken, with no better result. It was then determined to try aspiration. A fine trocar was inserted at the centre of the tumor, and by means of the aspirator of M. Pontain 120 grammes of fluid were extracted from the intestine, without counting the gas. The tumor instantly collapsed; the trocar was removed; an interval of a few minutes allowed to elapse before further interference took place. No swelling took place, nor was there indication that further escape of gas or

liquid from the intestine was going on; the taxis was again very gently applied, pressure was made very gently above and below the tumor, and the intestine felt to glide back into the cavity of the abdomen. The patient was subsequently treated by perfect quiet, with low diet, opium in small doses being given, and, beyond the occurrence of some degree of inflammation in the testicles from the pressure and handling they had undergone, no accident took place.—*The Doctor.*

Incontinence of Urine in Children.—The following is a communication by Holmes Coote, M. D., to the "Lancet":

"May I ask that you will kindly insert the enclosed communication respecting the treatment of the involuntary flow of urine, especially during night, of young children. I have tried, as others, the usual remedies, and without effect; but I have seen by experience that the administration of creasote is attended by the happiest results. The mode in which I administer it is in the form of a pill—creasote, one minim; bread crumb, q. s.;—or creasote, one minim; assafœtida pill, compound rhubarb pill, of each two grains. This is to be taken three times a day. I have had lately about five cases, in which complete success has followed this treatment."

New Method of Making Beef-Tea.—Dr. H. C. Wood, "New Remedies," has suggested the following process for making beef-tea: Take a thin rump-steak of beef, lay it upon a board, and with a case-knife scrape it. In this way a red pulp will be obtained, which contains pretty much everything in the steak, except the fibrous tissue. Mix this red pulp thoroughly with three times its bulk of cold water, stirring until the pulp is completely diffused. Put the whole upon a moderate fire, and allow it to come slowly to a boil, stirring all the time to prevent the caking of the pulp. As soon as it has boiled remove from the fire. Season to taste. In using this, do not allow the patient to strain it, but stir the settlings thoroughly into the fluid. One to three fluid ounces of this may be given at a time.—*Ex.*

Cure for Corns.—Bathe the feet well in warm water, then

with a sharp instrument pare off as much of the corn as can be done without pain or causing it to bleed, and dress once a day with the following salve: ℞—Black oxide of copper, gr. xv.; lard, ʒ ss. M.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

General and Differential Diagnosis of Ovarian Tumors, with Special Reference to the Operation of Ovariotomy and Occasional Pathological and Therapeutic Considerations. By Walter L. Atlee, M. D.; with Thirty-nine Illustrations. Philadelphia: J. B. Lippincott & Co. 1872.

The Profession will learn with great pleasure of the issue of this work. The author has operated oftener, it is believed, than any one in America; his operations being nearly two hundred and fifty in number, and attended with most excellent results. The volume is very properly and commendably dedicated to Dr. Ephraim McDowell, of Kentucky, the founder of ovariotomy, in 1809. The work is almost exclusively devoted to the diagnosis of ovarian disease. The author has very frankly exposed many of his own errors, and has criticised his past course very fairly. While he has never been so far at fault as to propose to operate *vi et armis*, and find, subsequently, that his patient was suffering from retroversion of the gravid uterus, and while he has not, when expected to operate, comically come before the public with a fœtus at term on a towel, it is true that he has committed his share of errors, and has had the manliness to openly acknowledge them.

In preparing his work, he has avoided compilation, and has relied entirely upon his ample experience. As a result, the Profession has an original work. The period of his operations

extends from 1843 to 1872; nearly thirty years. The pathology of the work has been produced by Dr. J. Ewing Mears, of Philadelphia, and by the author's son-in-law, Dr. Thomas M. Drysdale. An interesting feature in this connection is the great importance accorded to the microscopical examination of dropsical fluids, in determining the diagnosis of ovarian trouble. It appears that such examinations have often enabled the author to determine the true nature of doubtful cases, and guided him in making a correct diagnosis, when, without such aid, this would have been impossible. The general scope of the work may be determined when it is known that the author has examined and presented the following subjects: Ovarian tumors; ascites; peritoneal cysts, or cysts of the broad ligament; other cystic tumors of the abdomen; dermoid cysts; pregnancy; pregnancy coëxisting with ovarian dropsy; tumors of the uterus; retroversion of the uterus; retention of the menstrual fluid; dropsy of the amnion; enlargement of the abdominal viscera; distention of the urinary bladder; impacted intestines; muscular derangement of the abdominal parietes; inflammatory deposits in the pelvic and abdominal cavities; pelvic tumors and abscess; rectocele and cystocele; hypertrophy of the abdominal wall; adhesions; pathology of cystic tumors of the ovary; dropsical fluids, etc., etc. These subjects are, in the main, fairly and clearly presented, and the text is abundantly illustrated with creditable engravings. The reader is surprised to find grammatical blunders, not infrequently, and his surprise is increased when he learns, in the preface, that the author enjoyed the constant aid of Drs. Drysdale and Mears in the preparation of the work, and during its passage through the press. Without enumerating these errors, it is sufficient evidence of their carelessness to state that the preface is written at one time in the third person singular and then in the first person singular!!

The sale of so important a volume will soon exhaust the present edition; and it is to be hoped that, in the next issue, these inexcusable blunders will be removed. The work is

printed in a commendable manner, and is, in every respect, a credit to the House of Lippincott, which issues it.

OVARIAN TUMORS, THEIR PATHOLOGY, DIAGNOSIS, AND TREATMENT, ESPECIALLY BY OVARIOTOMY. By E. R. PEASLEE, M. D., LL. D., Professor of Gynæcology, Medical Department Dartmouth College; Attending Surgeon of the New York State Woman's Hospital, etc., etc.; with Fifty-six Illustrations. New York: D. Appleton & Co. 1872.

It is somewhat remarkable that the Profession should have needed American works upon this interesting subject for so long a period, and that just as many were disappointed in their desires and expectations, two works of this character should simultaneously appear. These volumes by Atlee and Peaslee will be generally welcomed and closely read. Dr. Peaslee dedicates his work, as appropriately as does Dr. Atlee, to Ephraim McDowell, M. D., of Danville, Ky., the father of ovariotomy; he also dedicates his volume to Spencer Wells, the greatest of ovariotomists. There is given an excellent vignette likeness of Ephraim McDowell, with his characteristic autograph. The field which Dr. Peaslee has sought to explore is much larger than that selected by Dr. Atlee, who expects to give in a future volume the details of operations, statistics, and treatment. While Dr. Atlee is more exhaustive in his diagnostic descriptions, Dr. Peaslee atones somewhat for his comparative deficiency in this respect by presenting the fruits of cultivation from a far more extensive field. Both have done well. The Profession will justly thank them for their labors. Dr. Peaslee presents a most formidable "Bibliography" table of eight pages. While this will unquestionably be useful to many, it is not a welcome feature in his book, as it suggests too strongly the devices of pedantry. It is far better that an author should cite his authorities by "foot-notes," and save himself from severe criticism, very often unjust. Dr. Peaslee has presented his subject in the following useful order: Normal anatomy of the human ovary and oviduct; ovarian tumors, their classification and pathological anatomy; growth, duration, causes, and symp-

toms of ovarian tumors; complications with ovarian cysts, and other enlargements often mistaken for them; the diagnosis of ovarian tumors; defferential diagnosis; diagnosis of adhesions; length of pedicle; carcinoma; tapping as a diagnostic aid; prognosis of ovarian tumors; examination of a supposed case; the treatment of ovarian cysts, except ovariotomy. This completes the first part of the work. In the second part, the reader finds, with pleasure, the following subjects presented: The history and progress of ovariotomy; ovariotomy; statistics; objections; favorable considerations; to what class of cases adopted; conditions determining when ovariotomy should be performed; direct causes of a fatal result; conditions predisposing to a favorable or unfavorable result; indications and contra-indications for operation; when to abandon an operation; prognosis; preparatory treatment; description of operation; history and practical details of the several stages of the operation of ovariotomy; after treatment; hygienic conditions; post-mortems, etc., etc.

In justice to the author, the subjects which he has presented have been thus carefully enumerated. No generalizations or descriptions can, justly to an author, be given as a substitute for this. It is a pleasure to testify that Dr. Peaslee has done his work well. His research has been great and the results of it most valuable. He has epitomized wonderfully the vast literary material which he has so laboriously examined. His references and bibliography alone give great value to his volume. He has fully vindicated the claims of Ephraim McDowell to being the father of the great operation of ovariotomy, and has given a final quietus to the claims of Robert Houstoun, of Glasgow; Laumonier, of Rouen; Dzondi, of Halle; Galenzowski, of Wilna; and Percival Pott, of London. No one reading the testimony presented will admit that any of these gentlemen could have anticipated Ephraim McDowell in his operation. Houstoun, Laumonier, and Dzondi did not perform the operation of ovariotomy; Galenzowski's case was an ovarian cyst, but he did not remove the cyst; Percival Pott did not

intentionally perform ovariotomy; he operated for the relief of a hernia. McDowell's claims are beyond dispute. He operated thirteen times, and eight of his operations were successful. A success of 61.5 per cent. Such is the testimony of Dr. Alban G. Smith, of Danville, Ky., his assistant. It is remarkable that Dr. Nathan Smith, of New Haven, was the next ovariotomist in this country, and that with him the operation was absolutely original, for he had never heard of McDowell's operations. The author gives in this connection the names of the American operators, with their operations and results. This part of his work is incomplete and clumsy. He has omitted the names of many operators, and the operations of many whose names he has given. On page 243 there is an error which should be corrected. One attempted operation is attributed to Dr. J. Billinger, of Charleston, South Carolina; the name should be written Bellinger; the reputation of this worthy surgeon is sufficient to protect him from such injustice. The operations in this country from 1853 to 1863, inclusive, are thus given by the author; his extract being taken from the work of Dutoit:

YEARS.	Cases.	Successes	Deaths.	YEARS.	Cases	Successes	Deaths.
1853.....	8	7	1	1859.....	7	4	3
1854.....	11	8	3	1860.....	3	3	0
1855.....	21	6	15	1861.....	3	2	1
1856.....	11	8	3	1862.....	4	2	2
1857.....	5	4	1	1863.....	3	2	1
1858.....	5	3	2				

The total of the reported cases, up to the last quarter of the year 1863, is one hundred and seventeen; of which sixty eight, or 58.12 per cent., recovered, and forty-nine died. Over two hundred additional operations not reported must, however, have been performed by the operators above named, during the eleven years just specified.

The author next gives a tabulated statement of the operations performed for the next seven years; that is from 1864 to October, 1871. This table will be examined with interest:

OPERATORS	Cases.	Successes.	Per cent.
Atlee, W. L.	246	'About 70 p. ct.'	70.00
Kimball	121	80	66.11
Dunlap, A	60	48	80.00
Peaslee	28	19	67.85
White	25	17	68.00
McRuer	22	16	72.72
Thomas	27	18	66.66
Bradford	30	27	90.00
Emmet	17	8	47.05
Sims	12	10	83.33
Miner	9	4	44.44
Axford	9	6	66.66
Crosby	5	2	40.00
Bennett	4	3	75.00
Green	8	5	62.50
Tewksbury (Portland)	7	3	42.50
Beebe (Chicago)	6	4	66.66
Hill (Augusta, Maine)	6	3	50.00
Noeggerath	6	1	66.66
Smith, A	5	3	60.00
Jackson (Chicago)	4	3	75.00
Mussey (Cincinnati)	3	1	33.33

This gives a total of six hundred and sixty operations and four hundred and fifty-three successes, or 68.63 per cent. Deducting thirty-eight of these which had been included in the previous list up to 1864; and there remains a total up to October, 1871, for this country, of seven hundred and thirty-nine known ovariotomies.

On examining the table given, it appears that the best results obtained were those of Bradford, of Augusta, Ky. Indeed, he has obtained the best results of any one who has ever operated, whether the European or American operations be consulted.

In reviewing the operation of ovariotomy in Great Britain, it appears that up to 1862, the three principal operators had the following experience:

OPERATORS.	Cases.	Cures.	Deaths.
Dr. Clay	110	77	33
Mr. Wells	76	53	23
Mr. I. B. Brown	52	28	24

In the past seven years, it seems that there have been at least six hundred and fifty operations performed in Great Britain, including a total of one thousand and eleven operations. Of

these Mr. Wells has performed more than one-third. Up to October, 1871, the British operations may be thus classified:

OPERATORS.	Cases.	Cured.	Died.	Saved.
Wells	440	328	112	74.54
Clay	250	182	68	72.80
Brown (to 1870) . .	120	84	36	70.01
Keith (end of 1871) . .	136	111	25	81.61
Bryant (1870) . .	28	17	11	60.71
T. Smith (1870) . .	20	16	4	80.00
Willett (1870) . .	12	4	8	33.33

In Scotland, since the operation of Mr. Lizar's, in 1825, there had been but one single operation successfully performed up to 1863. Since 1863, Dr. Thomas Keith, of Edinburgh, has operated (up to January, 1872,) on one hundred and thirty-six cases. His results are the best obtained in Europe, 81.61 per cent.

In France, the operation has been very generally repudiated; certainly by Velpeau, Cruveilhier, Cloquet, Jobert, Malgaigne, Huguier, Guerin, Trousseau, Piorry, Moreau, Robert, Barth, Cazeaux, etc., etc. "Up to December, 1863, there had been but twenty-six operations in France, of which only twelve were successful; 41.15 per cent." Boinet, in summing up the French operations to March, 1867, gives one hundred and twenty-two operations, with seventy-three deaths.

Up to October, 1863, there had been fifty-five ovariotomies in Germany, with forty deaths; successes 27.27 per cent. The whole number of ovariotomies in Germany up to January, 1870, was one hundred and eighty; of these one hundred and five were fatal. Recoveries 41.66 per cent. Nussbaum has had 34 cases, 18 cures, 14 deaths; Stilling 17 cases, 8 cures, 9 deaths; Spiegelburg 14 cases, 8 cures, 6 deaths. A success of 52.3 per cent. Kiwisch gives in his tables 54 cases and 51 deaths.

In Austria, ovariotomy had never been performed before 1866, and since then there have been in twelve operations eleven deaths. Billroth, of Vienna, has done better; he has operated nine times with two deaths.

It is surely a matter of congratulation to Americans, that one of their countrymen, Dr. Ephraim McDowell, taught the

world the great operation of ovariotomy; and that one of their countrymen, Dr. J. Taylor Bradford, of Augusta, Ky., obtained the best results of any operator known; the recoveries in his cases being 90 per cent.

This excellent work is a most valuable one, and deserves the fullest support. The Appletons have issued it handsomely.

HAND-BOOK OF COMPOUND MEDICINES, OR THE PRESCRIBER'S AND DISPENSER'S VADE-MECUM. By ARNOLD J. COOLEY, Philadelphia: J. B. Lippincott & Co. 1872.

This book is subdivided into departments, as follows: Pills; boluses; globules; mixtures; powders, etc., etc. For physicians who prefer the prescriptions of brethren who have not seen the patients, to their own prescriptions after seeing such patients, this book is a vade-mecum. Such works, however injurious, subserve a good purpose, they teach those unhappy doctors who have a mania for the prescriptions of others, that these may be bought by the bookfull; and that they are to be classified as commercial elements of trade, rather than as therapeutic or pharmaceutic values. There is but one way imaginable of curing the deluded and unsophisticated practitioner who is ever maniacally seeking the prescriptions of others; this cure is to sell prescriptions to him by the bookfull. This may disgust and cure him; if not, his case is hopeless; like Ephraim, with his idols, he must be let alone; abandoned to his fate. A terrible fate, too, this is, for it is difficult to conceive of a greater misfortune befalling a practitioner, than a silly or maniacal adoption of heterogenous prescriptions, which, written originally for some temporary phase of a disease, can by no possibility be rationally used again, unless under circumstances exactly similar. When one knows how age, latitude, diathesis, temperament, social status, employment, climate, etc., etc., modify diseases, he can understand how nearly impossible it must be to meet, even a second time, the exact pathological condition for which any prescription was originally written. This being the case, how sad and deplorable it is to see physicians hunt-

ing up prescriptions with a voracity surpassing even that of the blood-hound for blood. Such persons will find this book very acceptable, and if all of them purchase it, the result will be pleasant indeed. Happiness to the author and profit to the publisher.

A Hand-Book of Post Mortem Examinations and Morbid Anatomy. By Francis Delafield, M. D., Curator of Bellevue Hospital, etc. New York: William Wood & Co. 1872.

This work is designed to aid and guide all who are called upon to make post mortem examinations. It is divided into four parts. The first, the method of performing autopsies on the bodies of adults and young children. The second gives, in detail, the lesions which have been observed in each organ of the body. The third gives the lesions which are found after deaths from general diseases, from violence, and from poisons. The fourth gives a short classification of tumors.

This work is exceedingly valuable. It is a guide and aid which every one desires and must value. It meets fully a demand hitherto ungratified, and every physician should own a copy of it. Apart from the value of its design (which is excellent), the execution of this difficult labor is unquestionably masterly and most commendable. It is well issued, and will cost not more than three or four dollars.

Note.—Cannot the publishers of medical books be persuaded to place on the title-page of all the "Press" copies of their publications, the exact price asked for them? The Press needs this information always, and the failure to place such information in its possession renders every notice of publications incomplete, and diminishes the sale of the volume noticed. If physicians could always learn, in such notices, the price of each work, they would often order the work and remit the amount necessary, whereas, in the absence of such knowledge, they wait to learn it, and the subject is indefinitely postponed or forgotten. Publishers will please notice this.

THE TREATMENT OF SYPHILIS WITH SUBCUTANEOUS SUBLIMATE INJECTIONS. By Dr. GEORGE LEWIN, Surgeon-in-Chief of the Syphilitic Wards and Skin Diseases of the Charité Hospital, Berlin. Translated by Carl Proegler, M. D., late Surgeon in the Prussian Service and in the United States Army, and E. H. Gale, M. D., late Surgeon in the United States Army. Philadelphia: Lindsay & Blakiston. 1872.

This book will be read with great interest and profit. It embodies the experience and practice of one of the most distinguished syphilographers in Europe. For seven years he has chiefly treated syphilitic troubles by subcutaneous sublimate injections, and with great success. During this period he has treated upwards of 2,000 patients. He does not use this method invariably, but values it chiefly for the quickness and precision of the results, and the small number of relapses. The author mentions that in treating, by the subcutaneous method, 1,400 prostitutes in Berlin, he has not had more than twenty relapses; a result most extraordinary. His statistics, tables, etc., are very interesting and valuable. His usual formula for injection is 4 grains of the bichloride of mercury to one ounce of water; occasionally he uses 3 grains, and sometimes 6 grains; according to the idiosyncrasy and sensitiveness of the patient. He prefers the infra-scapular region as the site of injection; it is not so sensitive, the muscles are less used, the nerve ramifications are less, and abscesses do not here generally form. The sacral and glutæal regions are next in the order of selection. From $1\frac{1}{2}$ to $2\frac{1}{2}$ grains of the sublimate are sufficient usually to effect a cure.

The translation is very clumsily done, and the translator's preface is remarkable for its grammatical blunders. The work is confidently recommended, and will be an aid and a source of profit and instruction to all. The publishers have issued it well.

CHEMICAL AND PHARMACEUTICAL.

"Diruit, ædificat, mutat."—Hor.

The Utilization of Refuse.—As the country grows older and more thickly settled, substances which in former times were but little noticed are brought prominently into view, either because they become useful or become nuisances. To this latter class belongs the refuse from slaughter-houses. What shall be done with the *fifth* quarter of the animal, is a question that is perpetually assailing boards of health and other sanitary bodies. The tanner makes use of the hide, the shin bones are manufactured into buttons, and the horns into combs. The suet is rendered for the candle-makers, leaving only the heads, offal, and blood to be disposed of. A small portion of the latter is used in purifying sugar. The remainder, including the offal, has been fed to hogs; but public opinion has of late been setting strongly against this method of utilizing it, partly because of a growing conviction that such food does not make good, wholesome meat, and partly because of the intolerable nuisance created by the slovenly methods of dealing with the offal—a nuisance that has rendered the beautiful suburb of Boston, known as Brighton, a by-word and a reproach. We have been much interested in two methods that are being used in this vicinity for abating this nuisance, and converting these waste products into valuable manures. The first of these is now in operation in East Cambridge, at the extensive pork-packing establishment of Messrs. North, Meriam & Co. The blood and offal of this establishment had become such an offence to the neighborhood, that the proprietors were threatened with a perpetual injunction. They have removed the cause of complaint by drying the entire refuse, including the blood. The parts that contain sufficient fat to be worth the operation are first treated in the rendering tank, the clean fat being converted into lard, and the refuse into grease and grease oil. The scrap which is left, consisting of the bones of the head and feet, and

considerable meat, is then thoroughly mixed with the blood and dried. This is what may be called the purely mechanical method of disposing of the refuse. The other method, which calls in the aid of chemistry, is what is generally known as the Wilson process, and is carried on successfully by Messrs. Upton & Shaw at Brighton, near the River-side Press. These gentlemen have lately introduced such modifications into the business of bone-boiling, as to render this operation almost entirely devoid of offence; indeed, the whole process is attended with less of disagreable odor than arises from a pot of boiled cabbage. Their business at present consists mainly in boiling the heads of cattle and sheep, in order to extract the grease that they contain. For this purpose the heads are collected each day from the slaughter-houses, before they have had time to spoil, and are packed into a large iron digester, where they are boiled under pressure by steam for about six hours. This suffices most thoroughly to disintegrate the bones and tissue, and to set the fat and grease free. The gases from this rendering tank are conducted into a suitable furnace, and there burnt. The resulting soup is then run off into two tanks, the scrap added, and the whole mass treated with acid phosphate of lime, containing a large excess of free sulphuric acid. The bone of the scrap is thus, in a large measure, converted into superphosphate. This product, which is almost inodorous, is then dried by any suitable means.

Both of the above methods of utilizing offal are patented, but they are none the less interesting, as showing what is being done to convert waste products that have heretofore been a nuisance into a valuable article of commerce.—*Boston Journal of Chemistry.*

New Application of Electricity.—An ingenious application of electricity has lately been made by an Italian gentleman, M. Eugenio de Zuccato, of Padua. By means of the invention, any number of copies of a manuscript or design, traced upon a varnished metal plate, may be produced in an ordinary copying-press. The *modus operandi* is very simple. To the bed and

upper plate of the press are attached wires leading from a small battery, so that, when the top of the instrument is screwed down, the two metal surfaces come into contact, and an electric current passes. An iron plate resting upon the bed of the press is coated with varnish, and upon this surface is written with a steel point any communication it is desired to copy. The letters having thus been formed in bare metal, a few sheets of copying-paper are impregnated with an acid solution of prussiate of potash, and placed upon the scratched plate, which is then subjected to pressure in the copying-press. An electric current passes wherever the metal has been left bare (where the writing is, therefore), and the prussiate solution acting upon the iron, there are formed prussiate of iron or Prussian-blue characters corresponding to those scratched upon the plate. The number of copies that may be produced by this electro-chemical action is almost unlimited, and the formation of the Prussian-blue lines is, of course, instantaneous.

Another novel way of utilizing electricity is the employment of the current to saw wood without a saw. It is a familiar fact that the resistance to the passage of a current is inversely as the sectional area of the conductor. In fine wire, for instance, this resistance is very great, and the arrested force, being transformed into heat, may be sufficient to render the wire white-hot. This is the principle of the various gas-lighting and fuse-firing electrical apparatus, in which the gas is lit or the fuse exploded by the white-hot wire. It has also been employed instead of the knife in certain surgical operations, the wire being found to burn its way rapidly and smoothly through flesh, etc. The latter application has been extended by Dr. George Robinson, of New York city, to cutting wood also, the electrically heated platinum wire proving as effective, without any expenditure of manual strength, as a saw in the hands of a strong man. The surfaces are slightly charred.—*Boston Jour. of Chemistry.*

Wholesale Photography.—In order to have a better control over the Chinese population, the French Government has

recently adopted the rather original system of photographing every Chinaman in Cochin-China. A contract to perform this rather extensive operation was entered into by a Chinese artist, who undertook to produce two copies of every individual for about one shilling. One copy of the photograph is registered, and another affixed to the individual's "permit de séjour," an exception being made in favor of those paying 300 francs per annum. The capitation tax in this colony on Chinese is 25 francs annually for coolies, and other classes in proportion, the maximum rate being 300 francs, or $60.—*Boston Journal of Chemistry.*

A New Kind of Paper.—At the London International Exhibition there are to be seen some curtains made of a "felted fabric" so-called, which is simply a paper in the manufacture of which various animal and vegetable substances are used, such, for instance, as buffalo skins, the intestines of animals, the fibres produced from the various nettles and grasses, barks of trees, and from flax, hemp, and cotton. These substances, mixed together in varying proportions, are treated much the same as the materials for paper are treated, that is to say, disintegrated, purified, bleached, rolled, pressed, and finally printed upon. The fabric produced differs, however, from ordinary paper in this, that it is not readily torn, is somewhat elastic, and soft enough to fall readily into graceful folds. The inventor claims for it, further, that it will resist the action of the weather and sun, and that damp does nothing more than make it more soft and yielding to the touch. The fabric at present has been principally applied to window curtains, roller blinds, bed curtains, and for the covering of walls, not so much in the way of ordinary paper-hangings, but more as chintzes or tapestries are used. The patterns are an imitation of the brocaded silks of Lyons, chintzes and cretonnes. The inventor, however, has in view the production of a material that shall go much farther in superseding woven fabrics, in the shape of covering for chairs, and even as carpets for floors. It certainly may be said of the curtains that are put up in the various parts of the

Exhibition, that they are bright and cheerful-looking, and that it requires a close inspection to discover that they are not tissues. There is no doubt that the colors are less liable to fade than in chintzes, as they are printed principally in body colors, and will keep clean the longer, as dust is not absorbed, but can be brushed off. The prices of the curtains vary from 5s. to 30s. per pair, complete; the material may also be bought in the piece. This application of paper is practically new, so far as this country is concerned, though the Japanese have long ago found out that it could be applied to such purposes.—*Boston Journal of Chemistry.*

Faraday and Field.—Dr. Gladstone, in his Memoir of Faraday, just republished here by the Harpers, tells the following story, which is worth reproducing: "Inventors and promoters of useful inventions frequently benefited by the advice of Faraday, or by his generous help. A remarkable instance of this was told me by Cyrus Field. Near the commencement of his great enterprise, when he wished to unite the old and the new worlds by the telegraphic cable, he sought the advice of the great electrician, and Faraday told him that he doubted the possibility of getting a message across the Atlantic. Mr. Field saw that this fatal objection must be settled at once, and begged Faraday to make the necessary experiments, offering to pay him properly for his services. The philosopher, however, declined all remuneration, but worked away at the question, and presently reported to Mr. Field: 'It can be done, but you will not get an instantaneous message.' 'How long will it take?' was the next inquiry. 'Oh, perhaps a second.' 'Well, that's quick enough for me,' was the conclusion of the American; and the enterprise was proceeded with."—*Boston Journal of Chemistry.*

When fifteen to twenty grammes of granulated silver are introduced into a perfectly dry tube of hard white glass, with from thirty to forty grammes of bisulphide of carbon, and then hermetically sealed, on warming gently and then shaking in the dark, sparks are observed in the liquid, which, by continued

shaking may be rendered quite luminous. Pouring water on the tube causes the luminosity to disappear, but on shaking it becomes visible. This is a beautiful experiment. Iron and aluminum produce similar effects, while platinum, copper, and zinc do not.—*Ex.*

It is not many years since the whole stock of paraffine in the world did not exceed four ounces, which was carefully preserved in the laboratory of Prof. Liebig as a chemical curiosity. There is now produced in Scotland alone a quantity of not less than 5,800 tons annually.—*Ex.*

The "Journal of Applied Sciences" states that Sir Francis Ronalds, now ninety years of age, is a member of the Society of Telegraph Engineers, recently established. In 1818, Sir Francis proposed a system of electric telegraphy, and went to considerable expense in erecting lines of telegraph in his garden at Hammersmith. In 1823, he published a book, now very scarce, in which he said the day would come when the King, at Brighton, might communicate with his ministers in London as quickly as if he were himself in the metropolis.

An English chemical journal reports that some samples of silk were so heavily charged with picrate of lead, that they ignited spontaneously while being transported by rail, and that merely rubbing a piece of silk between two stones was sufficient to set it on fire. This would appear to be rather too explosive a fabric for ladies' dresses.—*Ex.*

MEDICAL NEWS.

'Nulla dies sine linea."

The Medical Department of the University of South, Carolina is so managed as to have caused the resignation of Dr J. T. Darby, who, in all respects, during his connection with the Institution, did credit to it and to himself. It was supposed,

from the causes inducing his resignation, that it would be difficult to find any one who would accept the position vacated. Dr. Robert Gibbes, of Columbia, S. C., has accepted the vacant chair. The number of medical students now in the University is either four or five. Negrophilism and misrule have thus destroyed one of the noblest and best Institutions of the South.

In the third week of its present regular session, there are 205 students in the Louisville Medical College, in this city.

The Augusta Medical College of Georgia has been made the Medical Department of the University of Georgia; a compliment well bestowed and fully merited.

The Faculties of most American Colleges, three years since, abused violently those Faculties who adopted the Beneficiary Provision in their College policy. Most Colleges at the South have since adopted this provision; many at the North have done so publicly, and it is believed that all have done so privately. They actually believe now that it is not a crime, but a virtue, to aid well educated and honest but unfortunate young men seeking a medical education. In another year Phariseeism will disappear, and all Colleges will not only admit, but be proud to admit, that such young men will receive their aid and support. It is a great change. Those who have led the way have breasted the pitiless storm and buffeted the angry waves; they have reached, however, the haven; and, standing safely upon the shore, see innumerable crafts in distress seeking safety and escape from shipwreck. It is a great change; *tempora mutantur et nos mutamur cum illis.*

An unfortunate young man from Arkansas recently matriculated at the Medical Department of the University of Louisville. The fact seems to have affected him disastrously. His clothing was soon found on the south bank of the Ohio river, at this city. For days philanthropy sought the melancholy remains, but in vain. A few days since a wild creature was seen subsisting in the briar patches of Indiana, and fleeing

from all who approached him. He was subsequently captured by the sheriff of the county, with a posse-comitatus, and he proved to be the unfortunate matriculant mentioned. This case is indeed a psychological mystery; it furnishes an additional chapter in the etiology of insanity.

Eight Children at a Birth.—On the 21st of August, Mrs. Timothy Bradlee, of Trumbull county, Ohio, gave birth to eight children—three girls and five boys. They are all living, and are healthy but quite small. Mr. Bradlee was married six years ago to Eunice Mowery, who weighed 273 pounds on the day of her marriage. She has given birth to two pairs of twins, and now eight more, making twelve children in eight years. Mrs. Bradlee was a triplet, her mother and father being twins, and her grandmother the mother of five pairs of twins.—*Ex.*———*The Invention of Spectacles.*—On a tombstone in Florence is this inscription: "Here lies Salvino Armato d'Armati, of Florence, the inventor of spectacles. May God pardon his sins. The year 1318."—*Ex.*———*Successful Ligation of Right Carotid Artery for Aneurism.*—Dr. Pigne-Dupuytren exhibited to the San Francisco Medical Society a patient on whom he had performed this operation. The aneurism being on the right side and so near the innominate artery, it became a nice point to decide where the ligature should be placed, that it should not be too near the innominate to prevent the formation of a clot, or upon the diseased artery where a similar difficulty might arise. The ligature came away on the 17th day. In five months the tumor had entirely disappeared.—*Pacific Med. Jour.*———*Monument to Von Graefe*—At the last Ophthalmological Congress, at Heidelberg, a committee was appointed "to worthily honor the memory of Albert von Graefe by the erection of a statue in some place in Berlin, near the scene of his clinical labors." The names of the committee are as follows: B. Frankel, Helmholtz, Von Langenbeck, F. Mendelssohn, Schweigger, Traube, Virchow, Waldeck, Wegscheider, of Berlin; Arlt, of Vienna; Alfred Graefe, of Halle; Donders, of Utrect; Biessig, Sunge, of St. Petersburg; Horner, of Zurich;

Walomont, of Brussels; Von Zchender, of Rostock; Quaglino, of Naples; Bowman, of London; Williams, of Boston, U. S.——*Vaccination and Revaccination.*—The value of vaccination and revaccination is becoming generally appreciated. Marshal MacMahon has given orders for the entire army of Paris to be vaccinated or revaccinated. A measure has been submitted to the Chilian Congress to make vaccination compulsory.—*N. Y. Med. Jour.*———A bequest of 10,000 francs has been made by M. Falsch to the Academy of Medicine of Paris for the purpose of founding a prize on mental and nervous diseases.—*Ex.*——— Among the candidates who recently passed the anatomical examination at the University of Berlin, with especial approbation, was a Japanese student, a son of the private physician of the Mikado.—*Ex.*———Dr. Schweinfurth, the renowned explorer of Central Africa, is about to make another expedition to that country in the especial interest of botany. His chief financial support is given him by his brother, a merchant of Riga.—*Ex.*———*Death Certificates.*—The loose way in which dispensary and hospital physicians give death certificates, has received a well-merited check in London. A physician there has been held in £300 bail for trial for having given a death certificate for a patient, whom he saw for the first time after death. Many American physicians might take a seasonable hint from this.—*Ex.*———A useful form of disinfectant has been recently brought into use in England—namely, sawdust soaked in a saturated solution of carbolic acid. It is convenient for many purposes, cheap, easily prepared, and not liable to be swallowed accidentally, as ordinary liquid disinfectants are.—*Ex.*———*A Nut for Vital Statisticians.*—During the recent strike of scavengers of Edinburgh, the mortality of that city fell to 15 per 1000, far below the ordinary average.—*Ex.* *Warren Prize.*—The income of two thousand dollars for three years will be awarded to the author of the best original dissertation, considered worthy of a prize, on the subject of "Experimental Researches on the Elimination of Drugs by the Mammary Glands." Dissertations, accompanied with a sealed envel-

ope, containing the name and address of the writer, must be sent on or before the 1st of February, 1874, to Dr. Benjamin S. Shaw, Resident Physician, Massachusetts General Hospital, Boston.—*Ex.*———*Jacobi Prize.*—A prize of four hundred dollars will be awarded for the best essay, considered worthy, on "A History of the Diseases of Infancy and Childhood in the United States, and their Pathology and Therapeutics." Dissertations must be sent, postpaid, accompanied by a sealed envelope containing name and address of the author, to Dr. A. E. Purdy, 123 East Thirty-second street, New York, on or before January 1, 1871.———*Death under Bichloride of Methylene.*—A patient recently died at the Bath United Hospital while under the influence of the bichloride of methylene given for the purpose of reducing a dislocation of the shoulder. A post mortem showed the heart to be large and flabby, but not otherwise diseased.—*Ex.*———Professor Virchow has been chosen Dean of the Medical Faculty in Berlin, and Professor Gneist is the new Rector Magnificus.

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

EDITORIAL BREVITIES.

A few weeks since a worthy gentleman of Pennsylvania applied for a catalogue of the Louisville Medical College. His letter passed, in some queer way, into hands unintended. He received a catalogue of the Medical Department of the University of Louisville. With this he came to Louisville, and on arrival, learned his error, and gave the catalogue, in his possession, to the writer. Pasted in this little pamphlet is the certificate upon which Mr. Geiger of Missouri, was last March allowed to graduate. After futile attempts to obtain a copy of it, here it is, at last; obtained in a most unusual and interesting manner!! "We certify that Jacob Geiger, of St. Joseph,

Mo., has been engaged, regularly and reputably, in the practice of medicine for at least four years preceding 1st October, 1871.

[Signed.] "GALEN E. BISHOP, (his Preceptor);
"W. S. LEACH, M. D."

The original of this remarkable document (without date, without specified locality, etc.,) was written in pencil and given to Mr. Geiger. He inked the pencil marks, and returned it signed. The certificates really given him were signed by other physicians; but those did not answer. There has been a great pretence of righteous indignation in response to the charge that Mr. Geiger was allowed to graduate without regard to truth or justice; this, however, is a mere sham. His diploma is a fraud upon the Medical Profession; and those who gave it know that they have manifested a recklessness wholly inexcusable. They are challenged to prove the contrary.

Clinical Thermometry.—Dr. Lucius D. Buckley has presented a lengthy paper on this subject to the New York Medical Society. The conclusions of the author, based on 337 cases of which a record is kept, not only of the temperature, but of the pulse and respiration, are as follows: 1. The body heat is maintained in health, under all conditions, at the uniform standerd of 98.4° Fahr. 2. Any constant deviation from this constitutes disease. 3. A return to and continuance of this standard marks the termination of the disease. 4. A single high temperature is important. 5. The changes of temperature in diseases follow definite and known courses. 6. Variations from these typical ranges of temperature in disease are significant, as indicating a disturbing cause. 7. An irregular course is more unfavorable than a uniformly high range of temperature. 8. Different temperatures characterize different diseases, and various days of the same disease. 9. Although a high temperature indicates a more severe attack, no heat under 109° can be considered surely fatal. 10. The daily study of the pulse and respiration, in connection with the temperature, is of great assistance. 11. When the temperature and general symptoms agree, but the pulse disagrees, the two former are to be relied

on. 12. When the pulse and general symptoms agree in indicating unfavorably, the temperature cannot be relied on, if contradictory, unless the improvement in respect to temperature is marked and persistent. 13. When the pulse and general symptoms agree in a favorable indication, a high or rising temperature should arrest attention. 14. All other means of investigation should be used in connection with the temperature to obtain the greatest benefit from the latter. 15. The continuous daily record of the three vital signs here represented, in the way exhibited, affords much aid in diagnosis, prognosis, and treatment of disease, by the presentation to the eye of its history in these respects.—*Ex.*——*Doctors Bills.*—Dr. St. John Roosa, in his Anniversary Address to the Alumni of the Medical Department of the University of the city of New York, tells the following good stories: "There are several anecdotes floating about our city relative to the subject of fees, which may or may not be true, but which, after all, illustrate the paternal relations existing between tried and trusted medical advisers and their patients, such as obtained in the times when people did not change their physicians as readily as they would a garment. It is said that the late Dr. F., for so many years the chief attraction of many circles of our society, once sent in his annual bill, which was about as large as usual, for medical services rendered the family of one of his most valued friends, when, in point of fact, he had not been in the house professionally during the entire year. The bill was paid as usual, but when the head of the family met Dr. F., he remarked: 'Doctor, I got your bill the other day, but I don't remember that any of us have been sick this year.' 'Very likely not,' answered the bluff man of science. 'You see I stopped several times at the area-gate and inquired of the servants how you all were.' For that year, at least, the good man was paid on the Chinese principle. The late Dr. S., who was for many years one of the prominent medical men in New York, is said to have once sent in a bill for three hundred and forty dollars and ninety-two cents, or some similar odd sum. This curious bill was also paid, but

when the patient met his physician, he inquired: 'How, Doctor, did you ever get that odd ninety-two cents in my bill?' 'Oh, said the Doctor, 'that is easily explained—my grocer's bill was just for that amount, and I knew of no one who would so cheerfully pay it as yourself, and so I made one pay the other."

In Christ's Hospital School (London), which has an average of 800 boys, and where it is the practice to vaccinate all on entry, one death only has occurred from small-pox during the past fifty years.———In the seventeeth century a law was in force in England that all women of whatever age, rank, profession, or degree, whether virgins, or widows, who should impose upon, seduce, and betray into matrimony any of his Majesty's subjects by scents, paints, cosmetics, washes, artificial teeth, false hair, Spanish wool, iron stays, hoops, high-heeled shoes, or bolstered hips, should incur the penalty of the law, and that the marriage should stand null and void.———One thousand dollars damages was recovered from a druggist in Jefferson county (Ky.), whose clerk had put up cantharides instead of stramonium in a prescription for piles.———Mr. David Davies, surgeon of Leominster, has been fined £1 and costs for having twice kissed a lady who came to consult him as to the beating of her heart, and which he declared beat "naturally enough."———Twenty-five miles an hour is shown by signal service observation to be the average velocity of a storm; when it has twice that velocity, it becomes a tornado.———There are in America and Europe more than 200 manufactories of india-rubber goods, employing an average of 500 operatives each, and consuming more than twenty millions of pounds of gum annually.———Prof. Shaler says that the rattle of the rattlesnake is for the purpose of imitating the sound of the Cicala and other insects that forms the food of many birds, and to attract the latter within the reach of the serpent.———Audubon would appear to have been less familiar with reptiles than with birds, for in drawing a snake he has placed the fangs in the wrong jaw.———*Chloroform among the Chinese.*—According

to the reputed discovery by M. Stanislaus Julien, it appears that as far back as the third century of our era, the Chinese were in possession of an anæsthetic agent which they employed in the same manner as we use chloroform and ether for producing insensibility in surgical operations. A description of this was discovered by M. Julien in a work preserved in the "Bibliotheque Nationale"—called "Kou-kin-i-tong," or a "General Collection of Ancient and Modern Medicines"—which appears to have been published in the sixteenth century. In a biographical notice of Hoa-tho—who flourished under the dynasty of Wei, between the years 220 and 230 of our era—it is stated that he gave the sick a preparation of chanvre (Ma-yo), who in a few moments became as insensible as one plunged in drunkenness or deprived of life; then, according to the case, he made incisions, amputations, and the like. After a certain number of days the patient found himself reëstablished, without having experienced during the operation the slightest pain. It appears from the biography of Han that this chanvre was prepared by boiling and distillation.—*Med. and Surg. Jour.*———*Artificial Eyes.*—A French paper gives a detailed account of the manufacture of false eyes in Paris, from which the curious fact appears that the average sale per week of eyes intended for the human head amounts to 400. One of the leading dealers in this article carries on the business in a saloon of great magnificence; his servant has but one eye, and the effect of any of the eyes wanted by customers is conveniently tried in this servant's head, so that a customer can judge very readily as to the appearance it will produce in his own head. The charge is about $10 per eye. For the poor there are second-hand visual organs, which have been worn for a time and exchanged for new ones; they are sold at reduced prices, and quantities are sent off to India and the Sandwich Islands.—*Med. and Surg. Jour.*———*Georgia Medical Companion.*—The last number of this journal contains an article which will receive notice in the next issue of this Journal. There is not space sufficient at present for this purpose.

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ORIGINAL COMMUNICATIONS.

"Qui docet discit."

ART. I.—TUBERCULAR PHTHISIS PULMONALIS. By MERIWETHER LEWIS, M. D., Lenoir, Tenn. A Prize Thesis: Presented at the Period of his Graduation, in the Louisville (Ky.) Medical College, March, 1872.

The great Sphinx question of modern times is Pulmonary Consumption. For centuries past it has continued to devour its helpless victims, while as yet no Theban hero has appeared whose genius or profound research could solve the dreadful enigma. And yet we may flatter ourselves that approaches have been made towards it; that modern pathology has thrown light where all before was Cimmerian gloom; and that modern therapeutics has saved from the monster's grasp those who were hitherto considered as doomed. It is, nevertheless, a melancholy reflection, that while our knowledge of the disease and its treatment has become, with each succeeding year, more and more accurate and extensive, that its dreadful ravages have increased pari passu, and that its aggregate mortality is

greater to-day than at any past period of the world's history. Yet such is the fact. Indeed, it is a prominent characteristic of the affection, that while other diseases are becoming more amenable to treatment and are losing ground, it is as steadily progressing in frequency. It is one of the attendant evils of civilization. Therefore, it is reasonable to conclude, that in the whole range of human suffering and disease, tubercular affections are the most deserving of attention and devoted study of the physician, both on account of their increasing prevalence and their terrible mortality. And in this assertion we are fully sustained by the evidence of modern statistics. One-third of the mortality of London, and one-fifth of the entire mortality of Europe and America, result from tubercular disease. Its powerful hereditary tendency, and its special prevalence among those classes of society characterized by preternatural activity of intellect, as well as the finer emotions and sentiments, add to the importance of its earnest consideration, and render it a subject of deep and abiding interest. And this it must ever be to all in whose hearts exists a love for humanity and a sympathy for human suffering.

In a brief essay like the present, it is manifestly impossible to treat, at any length, all of the important aspects of so vast and difficult a subject as Phthisis. I will endeavor to discuss, however, as succinctly as possible, a few of the striking points of the disease, as follows: First, its origin and definition; second, its pathology; third, its different stages; fourth, its causes; fifth, its prevention, and sixth, its treatment.

The term, *phthisis*, is derived from the Greek word φθισις, and was introduced long before anything definite was known in regard to the true nature of the disease. It was first used as a general term to denote any wasting of the system, especially if depending on some obscure cause, and is well rendered at present by the popular and expressive English word, *consumption*. In fact, the disease owes its name of phthisis to one prominent and invariable symptom—wasting of the tissues. Without this symptom there can be no phthisis, no consumption. Phthi-

sis Pulmonalis is, therefore, a constitutional disease, characterized by wasting of the system and the presence of tuberculous matter in the lungs. I allude to tubercular phthisis.

Let us now take a brief view of the next division of the subject—its pathology. It may be well to remark, *in limine*, that while giving the opinions of pathologists on this much debated question, that the best and most conclusive views of ancient as well as modern pathologists are contradictory in their nature, and that while much has been learned and great advances made, there is still more to be discovered, and that the pathology of tubercular phthisis still presents itself as one of the grandest problems that ever engaged the earnest attention of the Profession.

The opinions of the earlier pathologists all tend to the belief of the disease being a local one, and thus for a long time caused the constitutional origin of the affection to be overlooked. Lænnec supposed tubercle to be a peculiar foreign body deposited in the tissues from the blood vessels, and there undergoing certain characteristic changes in obedience to certain inherent properties. Andral considered tubercle the result of modified nutrition of the textures. Diffused and miliary induration, the first stage of tubercle of Lænnec, he regarded as the result of chronic inflammation. This view was also coïncided in by Chomel and Louis. Some pathologists supposed it to be fibrin or lymph deposited in the lungs and other organs, and there taking on a low grade of vitality; while Carswell considered it a secretion, sui generis, but totally destitute of life. Williams maintained it to be a degraded condition of nutritive materials. It was held by many eminent pathologists to be identical with scrofula, or that phthisis and scrofula were but different manifestations of the same general disease. But this is exceedingly doubtful, and for the following reasons:

Scrofula is a disease primarily of infancy and early youth, while phthisis is confined almost entirely to adult age, appearing generally between the ages of twenty and fifty years.

Scrofula is becoming year by year less and less prevalent, indeed, is almost disappearing, while phthisis is as steadily increasing, both in frequency and in mortality. Again, the tubercle of scrofula is hyperplastic in its nature, while that of phthisis is heteroplastic. Scrofulous or hyperplastic tubercle may be produced artificially in different tissues, while the true tubercular deposit of phthisis can seldom or never be produced by artificial means. It is heteroplastic, and is the result of a peculiar general condition of the constitution, called the tuberculous diathesis; just as cancer is a truly heteroplastic growth, incapable of being artificially produced or of being cured by local measures, and depending on a preëxisting cancerous diathesis. These reasons are sufficient to render it very questionable, or even highly improbable, that the two diseases are so intimately connected.

Phthisis is a blood disease, affecting the entire economy, and of which the local deposit of tubercle in the lungs is but a symptom and an effect. Thus we have seen that tubercles were first considered as accidental productions, that is, real foreign bodies springing up in the lungs and other tissues and organs of the body. They were then thought to result from inflammatory action. This was the most fatal theory of all, for just as the pathology of disease changes, so will its therapeutics. Resulting, as was supposed, from inflammation, and kept up by it, physicians at once attempted to effect a cure by powerful antiphlogistic measures, just as they would have treated a case of violent inflammation. Of course the result of such treatment was the early and rapid death of the patient. And well may we now, with our present advanced views of this awful malady, look with horror on the bloody cases of Louis and Andral, who bled patients even in the third stage of phthisis to fainting, often taking from fifty to a hundred ounces from a single patient in the course of a few months. And truly may we consider the "V." "S." in their prescriptions as nothing less than the death-warrant of the unfortunate patients, the sad victims of a mistaken pathology. Nothing shows in a clearer

light than this very instance the immense importance of a correct pathology. And to the attainment of this, the labors of Louis, Lænnec, of Andral, of Carswell and Baillie, as well as the brilliant Skoda and Rokitansky, have all been directed. The pathology of Phthisis is so vast a subject that volumes would be necessary to develop all of its interesting and important points. But, after all, it may be said with truth, that we know as little now in regard to the nature of tubercle as was known in the days of Lænnec. Yet, in connection with it, a few great pathological truths have been discovered, burdened though they be with false theories and but dimly seen, yet pregnant with the mightiest results. We know that it is a great constitutional disease, which exists long before its first effects or the depositions of tubercle are accomplished. We know there are two great classes of diseases; those in which the local injury precedes and causes the constitutional, and those in which the reverse obtains; in which the local affection is but the result of an antecedent constitutional or systemic disorder. It is, therefore, evident that the great lessons of pathology in regard to Phthisis teach us that it is to be looked upon as a great systemic disease, of which the lung affection is but an indication and a stage; that its danger cannot be estimated solely from physical signs; that its treatment should be principally constitutional in its nature; and that it should be commenced at the earliest possible date, even before the disease becomes evident from local signs; and lastly, that its prevention is easier than its cure.

This prepares us for the next part of the subject, its division into stages. It is evident to every reasoning mind, that if we accept the deposition of tubercle in the lungs, or what is called the "first stage," as our starting point in the study and treatment of the disease, that we shall find ourselves mistaken in pathology and baffled in therapeutics. And here we must be particularly on our guard, lest by too minute and exclusive a study of the physical signs of the disease we lose sight of the great essential fact of its constitutional origin. That it is not a mere local disease, is evident from the fact that the

local affection is no measure of the danger to life; that the local disease may be but slightly developed while death is imminent; and that, vice versa, it may be frightful in its extent while the patient is far from being at the time fatally or dangerously ill. These considerations are sufficient to establish the fact that Phthisis is not a local, but a great systemic disorder, of which no merely physical signs can ever show conclusively either its extent or danger. This is but a particular fact that comes under the great pathological law, that "every chronic disorder of structure in any organ is always preceded by a systemic or constitutional derangement." From this law it follows, that when by physical exploration we discover the deposition of tubercle in the lungs, we have found not the first stage of the disease, but only a conclusive sign that the true "first" or constitutional stage of the disease has been at work, producing as one of its characteristic local effects the tubercular deposit. Again I would repeat, that the deposition of tubercle is not the first stage. True, it is the first that is evidenced by the physical signs, yet there is evidently an antecedent or constitutional stage, which is as positively shown by symptoms as the following stage is by signs. There are, therefore, four stages of Phthisis: First, the constitutional or premonitory; second, the stage of deposition; third, consolidation or softening; and fourth, excavation, the usual colliquative stage. As the first stage is the *fons et origo* of the others, and especially as it is the only stage in which treatment is generally effectual, we shall accordingly proceed to give more fully its history and symptoms. And it is to this stage in particular that our attention is most earnestly called, as it is the only hopeful period of this frightful disease, the only stage in which, by proper hygienic and constitutional measures, its ravages may be checked. For if we wait till by slow, morbid tissue change the lungs are infiltrated by this peculiar unorganizable product, whose chemical tendencies are only to decomposition, before we commence the treatment, we are too late, the disease has fastened on the unfortunate victim, like the old man of the sea, and to effect its

dislodgment will require a skill and power almost superhuman. Hence, it is all important that we should discover and treat the disease in its constitutional stage. The earliest symptom of this stage is wasting. As yet no physical signs have appeared, and the fearful disease is doing its work in silence and in secret. There is no cough, no night-sweats, no hæmoptysis, no hectic fever. But the mysterious, peculiar wasting is steadily progressing, giving what has well been called the "phthisical aspect." The eyes sink deep into their sockets and assume a clear brilliancy almost unearthly, the cheeks lose their roundness and bloom, the forehead wrinkles, and the whole countenance appears relaxed and of a pale anæmic hue. Then follows progressive muscular atrophy, producing the next characteristic symptom—debility. Coïncident with this, there is a most distressing feeling, a sense as if something were wrong; that the vital powers of both mind and body were flagging, and that the muscular and brain waste were greater than their repair. From this results that depression of spirits of which so much has been said as a cause of this disease, but which is to be regarded rather as the result than a cause. Gland actions are still normal, though sometimes the amount of urea falls below the natural standard. Gradually the pulse loses its natural rate and becomes accelerated, and, together with occasional chills, marks the first supervention of a febrile disorder. The blood is becoming altered in quality, and its natural stimulant action is changing into irritation; pointing, as all the preceding symptoms have done, to the fact that Phthisis is a blood disease, and that this is the first step in the series of pathological alterations that are yet to follow. The disease is still read by symptoms, for, as yet, no physical signs have appeared. These now make their appearance: The first great stage has ended, and the second, or that of deposition, has begun. The constitutional symptoms of the preceding stage are now intensified, there is cough, slight at first, and generally occurring in the morning after rising, and which gradually becomes worse and more constant, while the expectoration increases and becomes purulent

in its character. Dyspnœa also supervenes early, together with general pectoral uneasiness. Then come the first approaches of hectic fever. The lungs now contain considerable quantities of tubercular matter in the form of gray or pale yellow granulations. The physical signs are sinking of the supra and infra clavicular spaces, slight dullness on percussion, the expiratory murmur is prolonged, while inspiration is deficient and the respiration in general decidedly puerile. The cough is naturally dry and unaccompanied by coryza, and is referred to the trachea by the patient. There is bronchophony, or, if the deposition is very extensive, pectoriloquy. In this stage there is still much to be hoped from the judicious application of therapeutic means. It is generally short in its duration, extending usually over but a few months, while the first stage lasts even for years.

We now come to the third stage—that of consolidation and softening. This stage is known by its peculiar change in the expectoration. The hitherto colorless, frothy expectoration is now observed to contain small quantities of tubercular matter, the proportion of which gradually increases. Some minute specks or streaks of blood make their appearance in the sputa. While these changes are going on in the expectoration, the remaining symptoms are constantly growing more and more intensified. The debility and emaciation rapidly progress, and the cough becomes more violent and constant. Hectic fever becomes severe, and in the majority of cases hæmoptysis supervenes. Softening is now rapidly taking place in the tubercular deposit, which is being eliminated by expectoration. The progress of the disease is steady from above downward, and the only changes are from bad to worse. Physical signs are well marked. On inspection and measurement, the normal expansion of the upper part of the chest is found to be seriously interfered with, while the cavernous and subcrepitant ronchi are revealed by the stethoscope. There is bronchophony, and generally well-marked pectoriloquy over points in the scapular and clavicular spaces. Night-sweats and diarrhœa now seem to

contend which will first exhaust the unfortunate patient. This stage may last but a few weeks, although in some cases, provided the patient is possessed of great powers of vitality, it may last for years. The fourth stage, "last scene of all," comes next; the stage from which, if well developed, few human beings ever recover. It has been well named the colliquative stage, on account of the frequent and exhaustive diarrhœa, expectoration, and nocturnal perspiration, by which it is characterized. All the symptoms now become exceedingly aggravated. Œdema of the lower limbs occurs, while the debility and emaciation become extreme, so much so that the patient can stand only with the utmost difficulty. The natural appearance of the chest is entirely altered; deep hollows above and below the clavicles, together with immobility of the upper part of the thorax. Physical signs are decidedly marked in this stage. We must be guided much, however, by the history or anamnesis of the case. There is yet dullness on percussion, while the stethoscope frequently reveals pectoriloquy, gurgling, bronchial, tracheal, and even the cavernous respiration of Lænnec. Fatal as this stage is, we must not despair, but remember that if we cannot cure, we can at least mitigate the severity of the spmptoms and promote the comfort as well as prolong the life of the unfortunate victim. And these are ends which every humane physician will labor to attain. We have thus divided the disease into four stages, and it may not be irrelevant to remark here, that it is in the first of these we are to expect success in treatment. That is the stage in which proper and well-directed efforts are of life-value to the patient. And in each succeeding stage the chances grow less and less, till we come to the fourth, which, like Dante's Hell, no mortal enters who leaves not hope behind!

Leaving this subject, we now come to the causes of Phthisis. Phthisis is either hereditary or acquired; and its causes may be divided into two great classes: First, hereditary tendency or predisposition; and second, external influences. That Phthisis is an hereditary affection, that is, that the peculiar tubercu-

lous diathesis is transmissible, is one of the best attested facts in the etiology of this disease. This hereditary predisposition is most frequently derived from the mother, and is twice as frequent in women as in men, and tends especially to extend in the sex from which it was first derived. The constitutional tendency of intermarriage, especially if among relations closely connected, is also decidedly towards the production of this fatal disease. Of this, however, more will be said when speaking of the prevention of Phthisis. It has also been observed that hereditary predisposition is more apt to exist in those who are characterized by unusual refinement of feeling and delicacy of sentiment; thus justifying the poet's mournful lines—

> "The good die soon,
> While they whose hearts are dry as summer dust,
> Burn to the socket."

What the true ultimate causes of Phthisis may be, we are, of course, utterly ignorant of, and are never likely to be much wiser on that point than we are now. But still we know that certain definite external circumstances, certain conditions, and certain surroundings, all predispose so strongly to the disease, and are so frequently followed by it, that we may well look upon them as bearing to the disease the relation of cause and effect. The principle of these external causes are the following—viz., a sedentary life, an atmosphere deficient either in quality or quantity, bad and insufficient food, inadequate clothing, exposure, excessive, mental or physical labor, a damp and variable climate, and, possibly, the influence of certain diseases, the abuse of alcohol, mercury, etc., together with mental depression. That a sedentary life, especially if combined with a confined position of body, is a most powerful predisposing influence in the production of tubercle, few will deny. Statistics all point conclusively to this fact, and show that the mortality among persons following sedentary occupations and breathing the confined, impure air of close rooms, is vastly greater than among those who follow out-door occupations. The bad air of workshops, loaded, as it generally is, with dust, is another pow-

erful cause. The insufficient diet and clothing, impure air, and general bad surroundings, need no commentary, their effects are evident. It was long supposed that pneumonia and bronchitis were frequent causes of tubercular phthisis, but pathological investigations have proved this to be a mistake. True, if the disease is already existing, if the purely constitutional stage of the affection is past, and the deposition of tubercle commenced, bronchitis or pneumonia may hasten the development of the disease; but being as they are strictly local affections, it is evidently unusual for them to produce a general constitutional disease, and one of so specific a nature as tubercle. In regard to mental depression, a great deal has been said by different authors, and, as might have been expected, far more than facts would justify. It must, nevertheless, be admitted that in many instances, especially in women whose lives may be said to ebb and flow with their emotions, the influence of sorrow and despondency, the hope against hope, is often sufficient to seriously affect the constitution, and even to develop incipient Phthisis. Whether it produces these effects by suspending the activity of respiration, or indirectly by interfering with the processes of nutrition and digestion, is as yet undecided, although in all probability it acts in both ways, and thus impoverishes the blood by diminishing its normal supply of both oxygen and chyle. Exposure can only be considered a cause of Phthisis when long protracted and capable of producing general depression of the vital powers of the system. If of short duration and moderate in degree, exposure has quite the opposite effect, and tends powerfully to its prevention. Climate undoubtedly is of immense importance, both in the production and prevention of the disease. If it is variable, preventing a wide range of temperature, and at the same time has a heavy, damp atmosphere, its deleterious influence will be evident to the most careless observer. But if, on the contrary, it is mild, of uniform temperature, and with a dry atmosphere, it will present a well-marked indemnity from the disease. Physical labor, like exposure, if exerted with proper discretion and confined within

due limits, exercises a remarkable conservative influence; but if long protracted and exhaustive, it becomes a serious predisposing element. It was formerly supposed that syphilis, with its consequent abuse of mercury, was one of the prominent causes of Phthisis, but with the improved therapeutics of more recent times, the patient has nothing to fear from this quarter, and it may be stricken from the list of recognized causes. Excessive mental labor has been long and deservedly considered as one of the causes of Phthisis, and although its influence cannot be denied, still its action is indirect. Intellectual labor cannot, *per se*, originate or even predispose to any constitutional affection. Its effects are produced by the sedentary life, the confined position of body, the deficient exercise and air, the loss of sleep, and the general excitement and exhaustion to which hard students are so frequently subjected. This is the way in which, year after year, we continue to lose the most promising young men and women of our land; indirectly sacrificed upon the altar of intellectual labor. And just as the amount of intellectual labor increases, just as intellectual pursuits predominate over the mechanical, in the same proportion will be the increased prevalence of Phthisis. It is a mournful fact, yet still one that cannot be denied. Contagion is believed by many authors to be a cause of the disease. This belief has prevailed from the earliest times, and still finds many advocates. Especially is this the case in the South of Europe, where the great mass of the Profession, following the teachings of the illustrious Morgagni, still contend that it is highly contagious. In the north of Europe, however, the reverse doctrine is taught, that it is not, and cannot be a contagious affection. And this is doubtless the truth in regard to the fact. Believing, as we are bound to do, that the contagiousness of Phthisis is not real, but only apparent and resulting from a similarity of surrounding circumstances and predisposing causes, we would, nevertheless, lean strongly to the side of safety, and advise that no one should ever habitually occupy the same bed, or even the same apartment with any individual in whom the disease is at all de-

veloped. For in such cases, although we can see no conclusive evidence of the contagiousness of the disease, there is something so mysterious in regard to this strange affection that we may well pause and hesitate, and eventually lean, as we have said, to the side of safety. If we err at all, it is better to err from too much than too little prudence.

Having spoken at some length of the causes of Phthisis, we now propose to discuss the prevention, placing these two divisions in juxtaposition, on account of the close connection between the cause of a disease and its prevention—viz., that in order to prevent the occurrence of a morbid condition, we must counteract or remove the causes.

In connection with Phthisis, which, as we know, is a disease so often fatal when once developed, it is evident that its prevention is, practically, of greater importance than its cure. And while we have but little to hope for in the treatment of the affection, we may undertake its *prevention*, not only with hope, but with confidence, so sure are we of being able to produce a favorable result. Having discovered from the *history* as well as symptoms of a case that the individual is threatened by predisposition or otherwise with consumption, we must at once proceed with promptness and energy to the prophylactic treatment. This should be thoroughly and persistently carried out for years, or perhaps during the entire lifetime of the patient, according to the urgency of the case. The prophylaxis must evidently be based upon the causes of the disease, that is, every known or even probable cause or predisposing influence must be counteracted and the opposite condition induced. A sedentary life, with its concomitant circumstances of bad surroundings, impure air, confined position of body, being one of the most prominent predisposing elements, must be sedulously guarded against. "The patient must lead the life of a savage, and not that of a student or a refined and civilized human being." He must assiduously endeavor to make his animal or physical life predominate over his intellectual being. Constant, active, cheeful exercise must be kept up; in fact, he must be-

come, if possible, a bona fide athletic. Let him go to the wild western plains and become an enthusiastic hunter. Let him be his own butcher and cook, and there is every probability of his being permanently cured of the predisposition. Climate, next to exercise in the open air and freedom from the deteriorating effects of over-refinement, is one of the best means of prophylaxis. It is used, of course, more as a preventive than as a cure; for while its beneficial action as a prophylactic agent cannot be doubted, its curative powers are, at best, but slightly marked even in the second and third stages, and are totally ineffectual in the fourth. But climate, in order to produce its proper effects, must be judiciously used. Madeira is probably the best climate in the world. Next come the Canary and Bermuda Islands. The West Indies, as nearly all authors admit, are far from being advantageous; rather hastening the progress of the old disease than otherwise. In the United States, Minnesota is the best climate for the first stage of tubercle, being cold, equable and bracing. It will not do at all, however, for patients in the advanced stages of the disease. In the second and third stages, the interior of Florida is one of the best localities. St. Augustine, Fernandina, and Jacksonville, although frequently resorted to by patients, are all objectionable. Their temperature is by far too variable, presenting a difference of very many degrees Fahrenheit in twenty-four hours. But far in the interior, among the pine forests, is the proper latitude for a consumptive. There he will have a mild, equable temperature, and an unlimited quantity of pure atmosphere loaded with ozone and perfumed by the fragrant breath of the *southern pines*. And I am confident that no atmosphere on earth is so pure, so free from every possible element capable of either producing or predisposing to a disease as that of a pine forest. Lightning excepted, there is nothing that purifies air more perfectly than ozone, and in the pine-forest air we have this element in a very heavy proportion. Europe, Spain, and Italy, are excellent; Rome, Pisa, Nice, are good in winter, but not in summer. In England, Torquay is probably the

best, then Clifton, the Isle of Wight, and Brighton. In concluding these remarks on climate, I would again call attention to the fact, that in the earliest stage of the affection, a cold, dry climate is the very life of the patient, while in the more advanced forms of the disease, when prevention can no longer be hoped for, and only cure is sought, a uniform temperature with a pure and abundant atmosphere is to be prescribed. This, however, is to be prescribed to patients prior to the fouth stage. When once this stage has become developed, to send the patient from home, is but to expose him to certain death among strangers, and perhaps in a foreign land. While speaking of climate in the above remarks principally as a prophylactic agent, I have, nevertheless, treated the subject with an eye to the therapeutic management of the disease after it has become developed and prevention is no longer aimed at. In so doing, although violating the divisions of the subject, I have been able to render it more condensed, and thus to save time. The most effectual, if not the only means of counteracting the hereditary causes of the disease, is to prevent the intermarriage of persons who, either by inheritance or otherwise, have acquired the tuberculous diathesis or predisposition. Nor should relatives, even if sound in constitution, ever marry each other, as this tends powerfully to produce the disease. "Intermarriage among the collateral branches of the same family," says Dr. Mason Good, "tends more than anything else to fix, extend, and render more intense and inveterate, predispositions of every kind, and especially Phthisis." To sum up what has been said on the "prevention of Phthisis," the patient should lead an active life in the open air, should live well and be warmly clothed, should avoid all depressing influences of every kind, physical or mental, and should live, if possible, in a suitable climate.

Having completed the prevention of Phthisis, we now come to the last division of the subject, its treatment. There are few if any diseases whose pathology, and, consequently, treatment, have been so changed as Phthisis. Its pathology, once false

and mistaken, led in many instances to the most unfortunate therapeutics. Thus, during the long period in which the inflammatory origin of Phthisis was taught, the treatment was to draw blood to the amount of six or eight ounces every day for two weeks, and then gradually to diminish the amount; thus literally bleeding the miserable patient to death. What a contrast between then and now! With what horror would we look upon the man who would dare to bleed a patient in the last stage of consumption, and to treat him only with "infusion of violets and gum potion." Emetics were, also, greatly relied on by the Profession. Some even went so far as to assert that if consumption could be cured by anything, it was by emetics and blisters. This view was carried to a great extreme, so that we read of one woman, aged forty, who took six hundred emetics in ten years! We are not informed what were the peculiar pathological views of such heroic practitioners, but we may feel certain that could the disease have been cured by emptying the patient's stomach as well as his veins, it would most assuredly have been done. But it is useless to waste time in dwelling on these sad mementoes of the fallibility of medical art. They should be held up, however, before our minds as solemn warnings never to allow ingenious, yet unfounded theories, to influence our practice, nor to build hypotheses upon any other basis than carefully observed and rigorously analyzed facts. And if we are to judge the future by the past, God forbid that coming ages shall find that we, too, have been mistaken in our pathology, and that upon the proud altars of our boasted theories thousands of unfortunate victims have been sacrificed. In regard to the most modern treatment of Phthisis, but little need be said. As before remarked, the prevention of the disease is both easier and of greater practical importance than its cure, hence it should receive the greater attention of the Profession. And one of the best plans of treating the two first stages of the affection, is to manage it as if we aimed solely at its prevention. In a word, the prevention of the disease becomes its cure when once it is developed. In the first or constitutional

stage, the treatment is entirely preventive in its nature, there being strong ground for hoping to prevent the occurrence of the local effects of the disease, or the deposition of tubercle. Exercise, pure air, good diet, warm clothing, a mild and equable climate, together with iron and cod-liver oil, and perhaps strychnia, form the essential points in the treatment. The digestive powers of the patient must be kept in the best possible order. When they fail, or begin to prove inefficient, use the pepsin, and if the oil is not properly assimilated, use pancreatic emulsion. Let me insist here on the importance of the oil, iron, and strychnia. The patient instinctively avoids any fatty substance in his food, while at the same time his system is becoming rapidly drained of this important element. Hence cod-liver oil must be given in large doses. It may also be used by inunction and injection.

Iron should be constantly taken to counteract its growing deficiency in the blood and tissues. The nervous system is becoming torpid, as it were, hence some stimulant, strychnia for instance, should be used. Animal food must be taken exclusively, and if not digested, pepsin must be used, as was before suggested. Sugar, syrup and saccharine articles of food should be lavishly used. The diarrhœa, night-sweats, cough, and hectic fever, must be treated on general principles, having the attention fixed on the great fact of the constitutional origin of the disease. Perhaps the combination of sulphuric acid with sulphate of zinc and quinine will give the best result in cases of exhaustive night-sweats, the zinc acting as a nerve tonic, and the quinine as an analeptic. But of the local treatment of the disease, and of the management of its special symptoms, I do not propose to treat. Therapeutic measures become less and less effectual as the disease progresses from the first to the fourth stage. Toward the termination of the affection, treatment becomes utterly hopeless. But while we are thus unable to save life, we may yet procure an easy death. At first we labored to prevent the disease, then to effect its cure, and now, despairing of this, euthanasia becomes the grand object of the

physician. And in no case is this more easy to obtain than in Phthisis; for the mental and moral powers remain unclouded to the last, and the patient often sinks into his latest rest as calmly as the Christian martyr, "Not fearing death, because not doubting Heaven." And in witnessing the grand change that then takes place from the languor and decay of death to the power and glory of an undying life, may we not ourselves realize that death is not destruction, but a great transition; that it is not existence finished, nor human skill defeated, but the grand and glorious opening of another life.

ART. II.—EPIDEMICS, THEIR PREDISPOSING CAUSES, AND THE MEANS OF COUNTERACTING THEM. By BENJ. H. RIGGS, M. D. [Read before the Selma Medical Society, Alabama.]

I have had the honor for the last two years of acting as chairman of the Section of Sanitary Science, and in that manner have more particularly had my attention drawn to medical hygiene. I propose to occupy your attention for a short time this evening in a few remarks upon "Epidemics, their Predisposing Causes, and the Means of Counteracting Them."

The three great epidemic diseases of the world at the present time are Cholera, Small-Pox, and Yellow Fever; the Plague (pestis or pestilence) once so destructive, has been exterminated, as we will hereafter see. The yellow fever, febris typhus icterodes of the older authors, or febris flava of the nomenclature of diseases of the Royal College of Physicians, is the one of these we most dread, because standing most in danger from its blighting visitations. Every summer this yellow pestilence, like the sword of Damocles, seems impending, as with the force of fate it slowly and surely holds its march towards us, and its jaundiced victims in the cities of the Gulf and up the Valley of the Mississippi, stark monitors, warn us to heed its approach. First in Havana, then in New Orleans, Vicksburg, Natchez, Jackson, Mobile, and once in Selma, it starts in the balmy

tropics, and with gradual aggress, continues its line of march, traveling along the great thoroughfares, seizing upon the large cities with eagerness, and battening upon their accumulated filth, whence with refreshed vigor it assails, during severe epidemics, the villages and rural hamlets. We have no right to think that we will be exempt when this disease prevails as an epidemic in Mobile or in Jackson, but may reasonably fear that Selma will also have her share of its blighting patronage. It becomes us, then, to see if there be no way of staying its progress or mitigating its intensity. As rational creatures, we would "rather endure the ills we have than fly to those we know not of"; prefer to retain hold of this terrestrial life, with its mellowing tints of sorrow to shuffling "off this mortal coil" and taking the leap in the unknown beyond. Why not then do what we can to prevent pestilence? I do not propose here to discuss the history, cause, type, pathology, contagiousness, or non-contagiousness, or treatment of yellow fever; this is not the place. I merely desire to impress upon each of us, as physicians, that we are greatly responsible for the virulence of any epidemic that may visit us; that the citizens of Selma, aided by the physicians, can prevent *any* infectious epidemic; and that nothing is needed on their part and on ours but inclination, energy, and intelligently directed efforts. Every physician, by acting independently or in concert with others, can accomplish very much towards improving the sanitary condition of our city; we should not let this duty devolve solely upon the city authorities, boards of health, and such legally constituted bodies; but each one, in his sphere, as he moves upon his daily rounds, can effect much by the word in season, the timely word of advice and warning.

Our city, during the past summer, in my opinion, owes its comparative exemption from severe disease, in a great degree, to the energy and zeal exhibited in its sanitary policing.

I assert the proposition, that pestilential epidemics are due to filth. I do not mean that the originating cause of yellow fever, cholera, etc., is uncleanness; for the medical world is not

yet decided on this point, and their prime cause is involved in much obscurity; but that filth is the cause of their assuming the formidable proportions of a pestilence. To establish this point, it is necessary that I take a summary review of the history of epidemics. The Plague of Egypt and the Levant, the bilious fever of Spain, the yellow fever of America, and the cholera of India, are considered as belonging to the same class of diseases, the zymotic as originating from similar causes, and though we know but little of the precise nature of these causes, yet we have learned much of the conditions necessary to their production and extension. I will take the Plague as the type, and we can judge of the habits of all by being familiar with those of one. The *localizing causes* of pestilence are bad air, cemeteries, various manufactories, stables, slaughter-houses, filthy streets, offensive privies, bad water, stagnant water, bad drainage, offensive cities, marshy grounds, low, filthy situations, bad food, and a condensed, filthy, and ill fed population. As a consequence of the continuance of these causes, "a corrupted state of the air arises," which, in the language of Dr. Mead, in his learned treatise on the Plague, "attends all p agues." He says, in the article on Epidemics, in the Cycl. Pract. Med., "If we examine the history of the plagues of London in 1625 and 1665, of the Netherlands in 1635–6, of Aleppo in 1740, of Marseilles in 1720, and of Malta in 1813; if we turn our eyes to the modern visitations of pestilence in Spain and the United States and the East Indies; or if we look back to the descriptions of the plagues of Athens and Rome, as recorded by Thucydides and Livy, without laying any stress on the poetic coloring of Homer, Lucretius and Ovid, we find that some remarkable intemperature of the weather and seasons has been the antecedent, and generally a warm, southerly constitution of the air a concomitant of these events. There can be little difficulty in tracing a connection between intemperature of the seasons and famine or unwholesome food; and the relation of the latter to the production of epidemic pestilence is more clearly manifest when we consider that its violence almost inva-

riably falls upon the poor." The Plague has always first begun among the poor, who also are the chief victims of yellow fever and cholera, because they are principally subjected to the influence of the exciting causes above enumerated.

The following appear to be legitimate deductions from the experience of medical historians relative to the causes of pestilential epidemics, none of which are of themselves adequate to produce the formidable result, but when all are combined in a given locality, like the slumbering strength of the magazine, they need but the igniting touch of the imported *fomites* to produce a pestiferous explosion that "touches corruptibly the life-blood of all":

"1st. The intemperature of the air, or a series of unusual and irregular weather, lays the foundation for an acute disease in a congregated mass of human beings.

"2d. Deficient or unwholesome food predisposes the bodies of the poor, especially, to be acted upon by this intemperature.

"3d. Local impurities, composed of effluvia from putrifying substances, in the vicinity of marshy situations or of large, filthy cities, in proportion to their extent and to the concentration and virulence of the miasmata, aggregate the preceding causes by a partial pollution of the air.

"4th. Human secretions and excretions, hurtful in this state of the body even without actual disease, but which become virulent by accumulation, and poisonous when subjected to fever, acquire a degree of malignity which is proportioned to the congregated mass." Ibid. p. 72.

The evidence bearing upon the connection of pestilence with filth is remarkable; it is both negative and positive. The negative is the exemption from pestilence of those cities of Europe which have adopted a system of health-police, not by guarding so much against foreign contagion as by domestic cleanliness. The positive is the devastation of these when this has not been attended to, and the immediate good results from sanitary regulations wheresoever they have been adopted. London, Paris, and the cities of the Netherlands, which were formerly scourged

by pestilence whenever the causes operated, are now, since the adoption of a strict sanitary police system, among the healthiest places on the globe. "London, two hundred years ago, was scourged by every kind of pestilence and malarial disease, from the Plague down to intermittent fever, affecting all classes, from the pauper to the prince; now, every part of it is kept cleaner than our canal street, and London is one of the healthiest of cities."—*N. O. Jour. Med. Sciences.*

The efficacy of sanitary regulations in staying the progress of pestilence is beautifully shown in the following history of the strangulation, as it were, of that most virulent of all pests, the Plague. It is taken from an article furnished the "Southern Journal of Medical Sciences," May number, 1866, by the late Dr. E. D. Fenner, who obtained it from the "Medical Examiner," Philadelphia, September, 1855, in an article entitled, "The Plague, its Origin and Disappearance. By Aug. Theod. Stamm":

"*The Disappearance of the Plague.*—Mehemed Ali gave orders to clean the city (Cairo), and to water and sweep the streets every morning; but the state of health did not materially improve. It had already been remarked by physicians of the army, at the time of the French-Egyptian expedition, that the encircled position of the city, combined with other unfavorable circumstances, must be very unhealthy. The advisers of Mehemed Ali repeated the remark, and the Viceroy, who was a tyrant, but seldom shrinking from the extent of an enterprise, took the bold resolution of carrying down a large portion of the earthy hills into the lowest fields, which, after having sufficiently elevated, he intended to water artificially and convert into beautiful gardens. As once the Pharaohs dragged thousands of men to the erection of temples and pyramids, so Mehemed Ali forced thousands of fellahs (Egyptian peasants) to execute his plans. Many died under the excessive labor, but the ranks were filled by others, and the work itself was always advancing. Thus a long chain of hills was carried down, and miasmatic fields converted into charming olive and fruit gar-

dens. As the work progressed, the health of Cairo improved. Already, in 1843, but a few cases of Plague occurred, and the disease, no longer brought from Egypt to other parts of the Turkish Empire, disappeared. At the end of the year 1844, while in Egypt, I could find no Plague, and since that time there has been no return of it. May the extirpation of the Plague contribute to extend the application of the great principles, that the best remedy for disease, and all other evils, is their prevention rather than their cure."

I will make an extract from the admirable article by the lamented Fenner, alluded to above, entitled "Remarks on the Sanitary Condition of New Orleans during the period of Federal Military Occupation from May, 1862, to March, 1866," in the May number, 1866, of the "Southern Journal of Medical Sciences," of New Orleans. In these remarks he quotes largely from Surgeon Elisha Harris (Federal), who compiled the statistics of said period. Says Harris: "The summers of 1862, 1863, 1864, and 1865, have now passed without any sign of epidemic diseases, and the cause of such immunity from the pestilence of former years was as certainly the result of *cleanliness* and the hygienic care of the poor as its accustomed visitations were the result of neglect of these public duties."

Adds Fenner: "How else can the failure of the disease (yellow fever) to become epidemic be accounted for? Yellow fever raged fearfully at Wilmington, N. C., in 1863, then in the Confederate lines, and at Newbern, in the same State, in 1864, in both cases attributed to importation."

Yellow fever occurred in New Orleans also during the above-named time, "in twenty-five vessels in the fleet that was anchored in the river in front of the city," and failed to spread to the city. A more thorough system of sanitary policing and cleansing were put in operation in that city during the above time than had ever been witnessed on this continent before; such a system as probably only despotic military power could have executed, though Provost Marshal Bowen says "there were no *special* military regulations to maintain the cleanliness of

New Orleans, the ordinances of the local civil authorities, passed before the rebellion, were vigorously enforced, and this enforcement was, in the main, sufficient to insure thorough cleanliness." What the tyrant Mehemed Ali accomplished for Cairo, Generals Butler and Banks accomplished for New Orleans.

Says Dr. Fenner: "For twenty years we and some others have labored to convince the people of New Orleans that the only way to make the city healthy, *is to make and keep it clean.*"

Verily, is not cleanliness akin to Godliness? Whose duty is it to impress these truths upon the people, if not that of the medical men? Are they not the custodians of health, as well as the physicians in disease?

The above concise summary of a few facts from the vast field of public or municipal hygiene presents some truths which relate to Selma, and it is our duty as physicians to impress upon the citizens and authorities that the issue now, and in all coming time, if epidemic or no epidemic, rests entirely in their own hands. Selma, since the war, is much more apt to become the scene of pestilence than it has ever been; her poor population, white and black, is much more numerous than ever before; their food is often scant, irregular, and non-nutritious; and their habitations are generally crowded, illy ventilated, and unclean; her population is greater than ever before; is her domiciliary and municipal hygiene such as it should be? The people, as well as the municipal authorities, should go to work. In the summer, particularly, let the streets, the market-places, and all public and private premises, be cleaned and kept clean; let the broom, and the spade, and the pump, and the cart, do their work; let the stagnant water be removed, and all low, damp places be filled in, drained, and kept dry; let all refuse vegetable and animal matter, be removed promptly from within the city limits; let scavengering be thorough; privies and garbage, stables and butcheries, damp and unventilated quarters, the haunts of vice and debauchery, should all be brought under constant supervision. Atmospheric disinfectants should also be

used, chiefest among which is chlorine, which is most conveniently obtained from the druggists, as chloride of lime or chlorinated soda. Carbolic acid has much reputation as a disinfectant in this day and generation. Bromo-chloralum is a new aspirant in this line. Unslaked lime should also be freely used in all damp and bad-smelling places. Copperas and tar are useful disinfectants for privies. Pyroligneous acid may be made useful also.

If we can secure a rigid enforcement of the ideas suggested and barely touched upon in the above article, with such quarantine regulations as are usual, we can guarantee Selma an immunity from pestilential epidemics. Is the boon not worth the labor and the cost?

ART. III.—THE RELATIONS OF OPIUM TO THE STATE OF GESTATION, PARTURITION, AND LACTATION. By THOMAS J. BENNETT, M. D., Smyrna, Tenn.

On the 14th of November, 1869, was called to see Mrs. C., aged twenty-three years; temperature melancholic; the mother of three children, and then in labor with her fourth. An examination revealed a natural presentation, although she complained of a fullness in the head; face flushed, pulse full and forcible; and from her symptoms thought I would have a case of puerperal convulsions to contend with; but further inquiry led me into the light of and cause of her condition. She had taken several doses of opium, in order, I suppose, to subdue her labor pains, which it did to a very great extent, for she had quite an easy labor. However, as soon as delivered, hæmorrhage set in to an alarming extent, not a dribbling of blood, but a regular gushing stream. I introduced the hand and delivered the secundines immediately, but without any effect in checking the hæmorrhage. I introduced the hand the second time, using cold applications all the while, hoping to cause contraction of the womb and a cessation of the hæmorrhage, but

failed in this attempt also. As a dernier resort, I injected the womb full of ice water, which soon put a stop to the hæmorrhage. This woman had lost so much blood that I feared too little had been left to stimulate the brain and nervous system to enable it to carry on the indispensable vital act of circulation and respiration; having also a corresponding depression to meet from the stimulating effects of the opium, in consequence of which I circumscribed the blood in as small a space as possible by bandaging the four limbs, making pressure upon the aorta, and stimulation. By this care my patient soon rallied, and did well.

In thirty-six hours after the birth of the child it was attacked with tetanic spasms, and died on December 14, 1871. Was called to this woman again in labor; found her in the same condition, full of opium; as soon as delivered, hæmorrhage set in again. I delivered the placenta with the hand, and injected the womb with a solution of Monsel's salt (subsulphate of iron), which checked the hæmorrhage at once. The lochial discharge was very abundant, and smelt badly. In about the same time after delivery the child was attacked with tetanic spasms, and died as before.

Remarks.—This woman and her husband are opium-eaters, and have used it intemperately for sometime. She thinks the opium caused the uterine hæmorrhage, and the death of her two last children. Previous to contracting the habit, she had three births, no uterine hæmorrhage; children all lived. We think the opium did cause or favor the uterine hæmorrhage; it may be possible that it caused the death of the two children. However, the various theories which have been promulgated in regard to the action of opium on the human system, we think are rather hypothetical. Dr. Jones thinks opium and alcohol have in many respects the same effect. Thus both are stimulating to the brain in moderate doses, in larger produce sopor, but leave the respiratory centre efficient. If opium is somewhat analogous in its effects to alcohol, would not this undoubtedly favor the idea that it would produce or increase hæmor-

rhage. He says, in all cases this depends on the condition of the individual or the degree of impressionability of the nervous system, and on its condition in different parts. It scarcely can be said that opium acts in a different way on the sympathetic system to that in which it acts on the cerebro-spinal system. It quiets pain alike in parts supplied by both sets of nerves; and we might imagine that opium acted on other tissues in an analogous way to that in which it affects the nervous, rendering them, as it were, torpid, and disinclined or inapt to function. This would explain the arrest of secretions, and perhaps of exudations, and of inflammations, but leaves quite unaccounted for, or rather is contradicted by the stimulant action of opium on the brain, its power of preventing fatigue, etc. Dr. Christison thinks the effects of opium seem to be generally in the first instance stimulating; the action of heart and arteries are increased, and a slight sense of fullness caused in the head. Dr. Leigh exemplifies this as they occurred to a friend of his. If in the evening, when he felt sleepy, he took thirty drops of laudanum, he was enlivened, so that he could resume his studies, and if, when the usual drowsiness approached, which it did in two hours, he took a hundred drops of laudanum, he soon became so much exhilarated that he was compelled to laugh, sing, and dance. The pulse meanwhile was full and strong, and the temporal arteries throbbed forcibly. Dr. Burnes also illustrates the stimulating effects of opium. On one occasion, says he, "I had made a very fatiguing march with a Cutchee horseman. In the morning, after having traveled about thirty miles, I was obliged to assent to his proposal of halting for a few minutes, which he employed in sharing a quantity of about two drachms of opium between himself and his jaded horse. The effect of the dose was soon evident in both, for the horse finished a journey of forty miles with great apparent ease, and the rider became more active and intelligent. This proves very conclusively from the highest authorities that opium, in its first action on the human system, is stimulating, and somewhat analogous in its action to alcohol; and that it does actually produce or

favor uterine hæmorrhage, is proven by the case under present consideration. This woman, when I saw her, was very evidently under the stimulating effects of opium; the face was flushed, the pulse and temporal arteries beat full and forcibly, and she was in this condition when delivery took place and uterine hæmorrhage set in; which proves, we think, without the shadow of a doubt, that the opium favored or produced the bleeding. In the first labor the hæmorrhage was checked by injections of ice water and the internal use of cold drinks. In the second labor, it was checked by injection with solution of Monsel's salts at once. Opium, we know, has been recommended by high authority in uterine hæmorrhage; but, under the present enlightened state of medicine, no one will ever think of giving opium in uterine hæmorrhage, unless it is to produce its stimulating and quieting effect upon the system. We believe that styptics, ice, injections with cold water directly applied to the bleeding surface of the womb, will have more power in checking uterine hæmorrhage than all internal hæmostatic remedies. As regards the death of the two infants, it may be possible that the opium caused their death, as the mother was constantly under its influence. Professor Wood was disposed to think at one time that the stimulating action of opium on the heart and brain might be owing to a sympathetic impression from the stomach; but now he doubts the correctness of this opinion, knowing how rapidly it may be absorbed and carried with the blood to every part of the system. That it is absorbed, he says, "Is proved by the fact, that in fatal cases of poisoning, even where there has been no vomiting, it frequently happens that none can be detected in the stomach; and that the smell of opium is sometimes detected in the breath, excretions and blood of persons who have taken it largely." Barruel asserts that he has detected morphia in the blood of persons poisoned with opium. (Pereira, Mat. Med., 3d edition, p. 2120). The milk of mothers under its influence has produced its peculiar effects on the suckling child. This shows that infants at the breast can be brought under the poisonous

effects of opium, and it may possibly produce convulsions and death in this way. We have been cautioned in relation to the use of opium in nursing and pregnant women, says Professor Wood, "under the apprehension that, in the former, the impregnation of the mother's milk with its active matter might prove injurious to the infant, and, in the latter case, the drug might prove poisonous to the fœtus." Tralles mentions that he had himself several times seen convulsions produced in children by moderate doses. The "Journal Universal" contains a case of death from opium after being affected with lock-jaw and dreadful spasms. A case is related in the "Medical and Physical Journal" of a young man who, three hours after swallowing an ounce of laudanum, was found insensible, with the mouth distended, the jaws locked, and the hands clenched, and who, soon after the insensibility was lessened by proper treatment, was seized with spasms of the back, neck, and extremities so violent as to resemble opisthotonos. Dr. Simson also mentions a case where the administration of three drops of laudanum, in a chalk mixture for diarrhœa, to a stout child fourteen months old, caused convulsions and death. Other cases could be mentioned, but these are enough to show that opium does occasionally produce convulsions and death, and more especially in children; for, as a general rule, they are peculiarly susceptible to its poisonous action, and small doses are extremely dangerous, from the rapidity of its absorption. If opium is absorbed and carried by the blood to all parts of the system, all the fluids must contain more or less opium. The material out of which bone, muscle, and nerves are formed, must contain a certain amount of opium. The child lived and was nourished in this fluid, which was kept continually supplied with a repetition of the dose as long as gestation lasted; after delivery, the child must get its supply of opium from the mother's milk, which might have been furnished in undue proportion, causing a loss of balance in the nervous force, and cause convulsions and death.

ART. IV.—NOTES ON A CASE OF PUERPERAL CONVULSIONS. By E. McD. COFFEY, M. D., Camden Point, Mo. [Read before the Platte County Medical Society, July 1, 1872.]

On the 29th of April, 1872, I was called to see Mrs. F., aged twenty-one years; primipara. Constitution good; bilious temperament; has always enjoyed good health. At full term. Saw her first at 8 A. M.; has been in labor (judging from account given by patient) about fourteen hours. Patient is restless, and prefers walking about the room to the recumbent position, as she suffers most pain in the latter position. Found the os dilated to about two inches in diameter, patulous, and in good condition generally; pains tolerably regular, but not very strong; tongue clean; bowels costive; pulse somewhat accelerated, but regular and of good volume; no abnormal deviations in shape of the pelvis; head presenting in second position of Bandelocque. The pains not having increased in strength by 11 A. M., I gave her a small dose of infusion of ergot, which acted very promptly, (having, in the meantime, given an enema of tepid water, which had the effect of removing a large quantity of impacted fæces). The os was sufficiently dilated in a short time to warrant a rupture of the membranes, and at half past 12 P. M., she was delivered of a female child weighing about ten pounds. Half an hour after, the placenta was expelled, followed immediately by firm contraction of the uterus, the patient being quite cheerful, and, to all appearances, doing well, with the exception of a slight pain across the forehead (a very important symptom, as I think the sequel proved).

The first convulsion came on at 4 P. M., without any premonitory symptom, except the pain in the head, accompanied with a sense of giddiness (the aura epileptica, perhaps,) at the moment almost of the paroxysm, the attack of which was very severe, with distortions and livid color of the face, eyes bloodshot or deeply injected and turned upwards, with head thrown backwards, jaws firmly closed; violent, irregular action of the muscles of the whole body, requiring considerable force to keep her in bed. Paroxysm lasted about two minutes. Pulse dur-

ing convulsion 140, and during first interval of thirty-eight minutes, it was 120 per minute. Consciousness so far returned as to seemingly recognize her friends. Complains of pain in the head; pupils considerably dilated.

During the interval between the first and second paroxysms, she took fully one drachm bromide potassium.

The second convulsion, 4:35 P. M., lasted about as long as the first, and with equal severity.

During the first hour of the second interval (of two hours and fifteen minutes duration) the pulse was 140 instead of 130, as in the first. Patient bathed in a profuse warm perspiration, and complains of great heat; says she *has no pain*, only when pressure is made over the uterus; also says she has been sleeping. Pupils still dilated. Passed, involuntarily, about two pints of urine, the character of which I was unable to ascertain, as it was mixed with the lochia. Gave about one drachm bromide potash. At the end of an hour the pulse was 118, and of good volume. At 6, gave her one drachm bromide potash, and half an hour thereafter her pulse was 84.

At ten minutes to 7, the third convulsion occurred, lasting one minute, but not so severe as the second. Pulse, fifteen minutes afterwards, 110; no complaint of pain in head; pupils dilated; passed, voluntarily, about one pint of urine. Gave one drachm bromide potash.

Fourth paroxysm came on at half past 8 (one hour and forty minutes after the third one), and lasted about one minute, but was much more severe than the last. Now took two pints of blood from her arm, and gave one drachm bromide of potash.

The fifth convulsion occurred at thirty minutes past 9 (fifty minutes after the fourth), and also lasted about one minute. Took a pint more of blood from the arm, and gave her forty grains hydrate of chloral. Patient is quite restless; pupils still dilated, and eyes very much injected during each paroxysm.

Sixth convulsion came on at fifteen minutes past 10 (fifty-five minutes after the fifth); was much more severe than any of the preceding ones, and lasted about two minutes. Pulse dur-

ing convulsion 140. Gave forty grains chloral as soon as paroxysm passed off. In a few minutes the patient was sleeping soundly under the influence of the chloral.

At 2 A. M., almost four hours after the last convulsion, my friend, Dr. Logan, of New Market, at my request, saw her, at which time she was still under the effect of the two doses of chloral, with pulse at 120, and pretty full and regular. Continue chloral in doses of about thirty grains whenever symptoms of restlessness occur. At 5:30 A. M., passed about a pint of urine, and seems more rational. One hour after, left her sleeping quietly. Saw her again at 3 P. M., learned that she had rested well during my absence. At 5 P. M. she awoke, and expressed a desire to see her child. Left at 7, with directions that chloral be given in twenty-grain doses, according to symptoms.

May 1st.—Saw her again at 8 A. M.; no return of paroxysms; relishes soup, of which she has had three or four ounces every three or four hours during the past day and night. Pulse 100 when awake, and 90 when asleep.

May 2d.—Still improving. Ordered Seidlitz powder to move the bowels. Patient has no recollection of anything that has occurred since a short time before the first convulsion until the morning of the first day of May, a period of about thirty-six hours.

May 5th.—Patient has so far recovered as to require nothing more than good nursing, with quinine in tonic doses three times daily.

June 1st.—The patient is rapidly recovering, being able to dress herself and child, and to walk about the house.

The large quantities of bromide potash (240 grs.) and hydrate of chloral (225 grs.) administered, are perhaps of some interest in the treatment of the case. The quantity of blood extracted was about forty-eight ounces.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—NORMAL OVARIOTOMY—CASE. By ROBERT BATTEY, M. D., Rome, Georgia.

The surgical operation which I am about to introduce for the first time to the Profession, although better entitled to the distinctive designation of *ovariotomy* than the one now generally known and accepted as such, differs so widely in its nature and objects, as to merit a new and distinguishing appellation. I have, therefore, taken the liberty of introducing the term *normal ovariotomy*, and defining it to be an *operation for the removal of the normal human ovaries, with a view to establish at once the "change of life," for the effectual remedy of certain otherwise incurable maladies.* The inception of the ideas that form the groundwork upon which this operation is based is so intimately connected with a case under my charge more than six years ago, that I may be pardoned the digression while I briefly relate it from my note-books.

CASE.—Miss Mary ——, aged twenty-one, asked my counsel in October, 1865, with complaint of violent perturbations of her nervous and vascular system, dependent upon amenorrhœa. She was in the bloom of her early womanhood—gifted with charms beyond the lot of the majority of her sex—to all outward appearances perfect in her physical development—her mammæ and external genitalia fitting to her sex and her age. She was gentle and womanly in her manners and sentiments; she enjoyed the society and attention of gentlemen; she had her loves and her estrangements, as other girls of her age. In fact, she was unconscious of anything which marked a distinction between herself and other young women, save only in the lack of that distinctive mark of perfect womanhood—the normal menses. The menstrual molimen was regular and vigorous, and had been for the space of five years, but there had been no issue of blood.

A careful exploration of the pelvis revealed a hymen intact—a vagina normal in its length and breadth and anatomical structure. At the apex of the vagina was a small, firm, fleshy nodule, like a rounded button. There was no appearance of an os uteri, nor of a uterus, except the rudimentary nodule mentioned. The finger in the rectum and catheter in the bladder revealed nothing but the intervening rectal and vesical walls. There were symptoms of endocarditis, with hypertrophy of the heart. Her periodical sufferings were extreme. She, like "the woman who had an issue of blood, had suffered many things of many physicians, and was nothing better, but rather grew worse." She looked imploringly to me for help; what could I do?

There was reason to believe that the cardiac malady in this case had its origin in the amenorrhœa. Nature had provided ovaries performing their natural function in full vigor, but no womb to respond by the proper issue of the menses. I said to myself, if she could be relieved of her ovaries, the balance would at once be restored; the menstrual molimen would cease; the violent strain upon the heart would be at an end; there might be hope for her.

I searched, but searched in vain, for an authority—for a precedent. How dare I to make one! Days, weeks, months, went by—my poor suffering patient calling constantly; but calling in vain for relief, until finally death, the stern arbiter of all human destiny, answered her call. Inwardly I resolved that another such case should not perish in my keeping without my reaching out a friendly hand in the hope of rescue.

CASE.—Miss Julia ——, aged twenty-three, came under my professional care in July, 1865—from which time to the present I have been charged with her health. She was a bashful, sensitive, retiring girl—more or less an invalid from her childhood, never robust. The menstrual molimen first made its appearance at the age of sixteen, but without the menstrual flux. Twice only had she anything which could be properly termed a normal catamenial flow during the seven years prior to my charge of her. She received at my hands, from time to time,

such tonic, restorative, and so-called emmenagogue medicaments as have been, and are, of repute in similar cases. At times she increased in flesh and strength, and then again would become much worn down by her periodical efforts at menstruation.

It would be both tedious and profitless to enter into the details of this long and varied treatment. Suffice it to say, that little and only temporary advantage was gained by it all, though diligently persevered in for months and years.

In the summer of 1868, all hope of relief by medication having been abandoned, and the wretched state of her general health precluding all idea of marriage, a vaginal examination was instituted, and a diagnosis of chronic corporeal endometritis made. She was subjected to local treatment by the nitrate of silver pencil during the Summer and Fall seasons, with the result of somewhat improved general health. She now had, with her menstrual efforts, hæmorrhage from the stomach, which somewhat relieved the severity of her attacks, and upon one occasion, an apparently natural catamenial flow for two days, which followed a cauterization, just as the menstrual molimen began to show itself. This encouraging sign, however, could not be elicited again.

During the years 1869 and '70, matters grew worse. She had copious and debilitating hæmorrhages from the stomach and from the rectum. On three occasions, there was retro-uterine hæmatocele, followed by abscess. She had repeated attacks of acute rheumatism; and more than this, a chronic cough set in, and continued for many months, with characteristic signs of some tubercular deposition in the lungs. Her general health was wrecked, and her prospect for improvement was gloomy indeed.

During this period, the thought often recurred to me, if I could but divest her of the source of her menstrual molimen—viz., the ovaries—there would be hope for her. It did not seem that her life could be much prolonged, and her feeble state forbade the idea of risking my own repute, and the reputation of an operation which, though bold and without a precedent, I felt

must some day do valuable service in the abridgement of human suffering and the prolonging of human life.

In May, 1871, the intra-uterine treatment was resumed, with the aid of sponge tents, and carried on regularly, and with perseverance, through the Summer and Autumn, until December. The general health was apparently improved by it; the uterus became to all appearances healthy, but there was no show of the catamenia. She passed the winter without cough; suffered two or three lighter attacks of rheumatism; had her usual paroxysms of amenorrhœa at intervals of about six weeks, with the customary hæmorrhage—sometimes gastric, sometimes rectal. In March, 1872, there came another pelvic abscess, discharging per rectum.

Her general condition was now so far improved as to lead me to entertain favorably the idea of a *normal ovariotomy* for her radical cure. For the first time, I suggested the thought to her, and explained fully the nature and character of the operation; its entire novelty, its risks, its probable results. It was presented nakedly, as the creature of my own thought, unsupported by any experience of my own or of any other person—wholly unsupported by the *opinion* even of any living soul but myself.

To my poor suffering and despairing patient, it was as a glimmering flash of light across the dark and portentous sky which had so long overshadowed her life. She seized hold of it with avidity, as doth the shipwrecked mariner a floating fragment of spar. She declared with emphasis that "her life was but a living death;" that to her the bare hope of cure—full and final cure—was of infinitely greater value than the realization of life coupled with her sufferings.

From this time forth, both the patient and her friends were impatient of delay, and importuning for the operation. I demanded the free and full consent of all her relatives; it was promptly given. I asked time to consult a few surgical friends of authority in the land; it was grudgingly granted. There was at no time any persuasion, any urging; there was room for

none. The patient a refined, intelligent, educated woman, moving in our best society, I could not urge to the risk of her speedy death, and the certain sacrifice of her sexual character. Nothing but her hopeless extremity could render the operation at all inviting, and of this extremity she alone could be the judge.

Preliminary consultations having been arranged, the operation was appointed for Saturday, 17th August, in order to allow time for her to recover as much as possible from her last attack, the next one being expected in due course about the 24th. On Thursday, the 15th, she informed me that she was experiencing already the prodrome of her coming paroxysm. The question of delay came up; she urged various considerations against it, touching her own personal convenience and the convenience of the family, as well as her own disappointment. I had fixed the day a little in advance, as I supposed, of the usual attack, fully believing that I should put a stop at once and forever to all menstrual impulse, and thus ward off the paroxysm. There seemed good reason to believe, that even though ovulation should be actually transpiring at the time of the operation, if the nervous and vascular disturbances were not already fully set up in the general system, it would thereby be effectually forestalled. It was, therefore, determined to purge the patient well—to enjoin rest, and, if need be, resort to opiates for tranquility, rather than recall the appointment. This determination was further strengthened by the consideration, that another paroxysm would add to her debility, and require additional time for recuperation, with the risk that her then condition might not be so favorable as at present.

OPERATION.

First Day.—Saturday, 17th August, 1872, at noon, the operation was done, with the assistance of Drs. G. W. Holmes, W. D. Hoyt, and J. B. S. Holmes, to whom I am under special obligations for their counsel and hearty coöperation.

The patient was chloroformed by Dr. Hoyt, with some difficulty, and owing to her insusceptibility, the anæsthesia com-

pelled a frequent halting and delay. The incision in the median line was begun an inch above the crown of the pubis, and extended upward for the space of three inches. Numerous small vessels sprung, and were temporarily ligatured to save time. There was a full inch of subcutaneous fat. The bellies of the rectus muscles were fully developed, and so closely applied to each other as to form apparently one mass, in which the thin membranous septum marking the linea alba was with difficulty made out; the muscular fasciculi were separated with the finger, and the peritoneum opened upon a director.

The pelvis was now explored with two fingers of my left hand. The uterus, in respect to its size, position and texture, seemed to be perfectly healthy; the ovaries were likewise healthy. There were no abnormal adhesions of the pelvic organs. To the right of and behind Douglas's fossa, was some fibrinous deposit, probably the remains of the abscesses in that region, which had discharged by the rectum and vagina. Notwithstanding the purgatives previously ordered, the sigmoid flexure of the colon was found to be distended with healthy fæces.

The right ovary was quickly brought to the light between my two fingers, and examined. Upon its upper and posterior surface, was distinctly marked *a freshly-ruptured* Graäffian vesicle, with a small drop of yet liquid blood exuding from the point of rupture. It seemed as though the ovum had but just escaped. An attempt was made to enucleate the ovary from its peritoneal investment, in order that the ovaric artery might be separately ligatured. This was readily effected in the larger and outer portion of the organ; but elsewhere the blending of tissues between the peritoneum and tunica albuginea was so intimate as to lead me to abandon the purpose, and the base of attachment to the broad ligament was then transfixed at the centre with a needle carrying a doubled silk ligature, and tied in two equal halves.

The left ovary was now searched for, and seized over the ramus of the pubis, at the left inguinal ring. Upon its surface

it presented likewise the marks of a recently-ruptured Graäffian vesicle, with a spot of darker-colored and coägulated blood in the point of rupture. It appeared probable that two, possibly three, days had elapsed since the escape of the ovum, but certainly not five weeks. The pedicle of the left ovary was ligatured by silk in two halves, in like manner, with the other. The ligatured pedicles were held in view sufficiently long to give ample assurance that there could be no possible hæmorrhage from their vessels. The ovaries having been previously cut away with scissors, all the ligatures were cut short, and the pedicle allowed to drop back into the pelvis. There was a little oozing of serum stained with blood, which was carefully sponged out, and the walls of the abdomen were now closed by three deep silver sutures, including the peritoneum, and secured by large-sized buckshot, perforated through the centre, strung upon the wires, and compressed so as to hug the wires securely. Eight superficial sutures, likewise of silver wire, completed the closure.

The patient was put to bed about 1 o'clock; soon recovered from the chloroform, and complained of great pain in the sacrum, and somewhat, also, of the lower abdomen. The pulse was good, and the general condition very satisfactory. A little brandy was given, and a grain and a half of sulphate of morphine per orem.

3 P. M.—Drew 4 ounces urine by the catheter, and administered per anum 1 drachm tincture opium. 4 P. M.—Slept a little. 4½ P. M.—Still complains of pain, and had 1 drachm tincture opium per anum. 6 P. M.—Pulse 72; complains of pain, and had 1½ drachms tincture opium per anum. 7 P. M.—Pulse 90; drew 8 ounces urine. 9 P. M.—Pulse 84; still complains of pain; vomited a greenish water, and had 1½ drachms tincture opium per anum; abdomen rubbed with oil turpentine. 10 P. M.—Drew 4 ounces clear urine; still complains of pain; had 1 grain morphine per anum.

Second Day.—1 A. M.—Pulse 100; vomited; drew 4 ounces urine; had a grain of morphia per anum. 3½ A. M.—Pulse

88; vomited, and there was occasional vomiting until daylight. 7 A. M.—Pulse 88; has slept most of the time since 10½ P. M.; she is free of pain—complains only of soreness, nausea, and a little headache; drew 8 ounces urine. 8½ A. M.—Had 1 grain morphia per anum. 12½ P. M.—Pulse 96; but little heat of skin; drew 10 ounces urine; rubbed oil turpentine. 1 P. M.—Had 1 grain morphia per anum; no vomiting since 5 A. M.; takes a little lime water and milk, with ice, as she wants it. 4 P. M.—Pulse 100; skin warm and dry; no vomiting. 5 P. M.—Drew 8 ounces urine. 7 P. M.—Pulse 96; still no vomiting; drew 2 ounces urine; gave 1 grain morphia per anum; applied turpentine to abdomen. 10 P. M.—Pulse 112; sleeping. 11 P. M.—Pulse 100; drew 6 ounces urine; three-fourths of a grain of morphia per anum; takes lime water and milk; slept well since 8 P. M.

Third Day.—2 A. M.—Pulse 100; drew 3 ounces urine; had three-fourths of a grain of morphia per anum; turpentine to abdomen, which is a little distended; sleeping well. 3 A. M.—Half grain morphia per anum. 6 A. M.—Pulse 100; drew 6 ounces urine; 1 grain morphia per anum; turpentine to abdomen; takes lime water and milk. 11 A. M.—Had half grain morphia per anum. 12 M.—Pulse 108; drew 8 ounces urine; turpentine to abdomen. 1 P. M.—Pulse 108; skin soft—in good, warm perspiration; quite drowsy, but wakes at intervals. 3 P. M.—Pulse 108; skin moist; had half grain morphia per anum. 5 P. M.—Had half grain morphia per anum. 6 P. M.—Pulse 104; drew 10 ounces urine; turpentine to abdomen; cloth moistened with diluted carbolic acid (1 to 24) on the wound. 9 P. M.—Pulse 108; had 1 grain morphia per anum. 11 P. M.—Pulse 108; drew 3 ounces urine.

Fourth Day.—3 A. M.—Pulse 120; drew 6 ounces high-colored urine; had 1 grain morphia per anum; there is more heat of skin, upper portion body and anus in moist state, abdomen and limbs hot and dry; no pain; lies upon her side, and has slept quietly since 11 P. M. 7 A. M.—Pulse 108; skin moist; 3 ounces urine; 1 grain morphia per anum. 8 A. M.—

Turpentine to abdomen. 11 A. M.—Pulse 100; drowsy; skin moist and natural; drew 4 ounces urine. 1 P. M.—Pulse 96; sleeping soundly; good, warm perspiration; abdominal tenderness much lessened to-day; she moves herself with comparative ease in bed. 2 P. M.—Pulse 96; 2 ounces urine; there is some sanguineous discharge from the vagina, and a little exudation of blood into the bladder. 6 P. M.—Half grain morphia per anum. 7 P. M.—Pulse 96; 4 ounces urine; skin moist, and there is less heat than last night; renewed turpentine and carbolic acid lotion; the edges of the wound, for an inch on either side, still present a red, rather erysipelatous blush, but not so decided as last night. 8 P. M.—Half grain morphia per anum; vaginal flow increasing. 9½ P. M.—Half grain morphia per anum. 11 P. M.—Pulse 100; skin moist; 3 ounces urine. 11½ P. M.—Half grain morphia per anum.

Fifth Day.—3 A. M.—Pulse 104; sleeps well; 3 ounces urine. 4½ A. M.—Half grain morphia per anum. 7 A. M.—Pulse 96; 4 ounces urine. 9 A. M.—Pulse 92; moist skin; resting well. 12 M.—Pulse 108; skin hot; 4 ounces urine; half grain morphia per anum; turpentine and carbolic lotion to abdomen; in half hour, another half grain morphia per anum. 3½ P. M.—Pulse 104; skin hot and dry; 2 ounces urine; half grain morphia per anum. 5½ P. M.—Pulse 104; skin moist and cooler; half grain morphia per anum; 3 ounces urine. 8 P. M.—Pulse 120; talking in her sleep; more restless for some hours. 9 P. M.—Pulse 108; abdomen distended somewhat; erysipelatous blush continues; applied warm poultice. 9½ P. M.—Two ounces urine; half grain morphia per anum. 11½ P. M.—Pulse 98; sleeping soundly; in free perspiration.

Sixth Day.—12½ A. M.—Pulse 130; skin rather cold; 2 ounces urine; half grain morphia per anum; says she "is a great deal better, but knows, by our looks, that we don't think so"; talks rather nervously, excitedly, 3 A. M.—Pulse 108; softer; skin warmer; gentle perspiration; 4 ounces urine; half grain morphia per anum; the mind is clear; she seems very comfortable, is free of pain; bears the touch upon the abdomen

greatly better; abdomen is softer, and less swollen; turns herself in bed with much more ease; the nurses see these changes in her suddenly marked; their portent we shall see. 7½ A. M. Pulse 100, good volume; she seems brighter, and more natural; complains of a *sweet taste* constantly in her mouth; 4 ounces urine; half grain morphia per anum. 9½ A. M.—Pulse 100; a little drowsy; she says she is more comfortable than at any time since the operation; she took a few mouthfuls of toast at breakfast; drinks iced milk freely; washed the wound and renewed poultice, which is sprinkled with carbolic lotion; wound discharging a little good-looking pus at the lower angle; removed one superficial suture. 11 A. M.—Pulse 100; 4 ounces urine; skin natural; perspiring; had half grain morphia per anum. 2 P. M.—Pulse 104; 4 ounces urine; there is a well-marked squint in the left eye, and ptosis of the lid; renewed the poultice to abdomen. 3 P. M.—Pulse 108; and had half grain morphia per anum. 5 P. M.—Pulse 108; 2 ounces urine. 6 P. M.—Had half grain morphia per anum. 9 P. M.—Pulse 104; had half grain morphia per anum; renewed poultice. 10 P. M.—Five ounces urine. 12 P. M.—Half grain morphia per anum.

Seventh Day.—2 A. M.—Drew 3 ounces urine; had half grain morphia per anum. 7 A. M.—Pulse 96; 4 ounces urine; she feels rather languid this morning; perhaps by reason of the diminished morphia (?); wound is discharging pus more freely. 11 A. M.—Pulse 96; comfortable; perspiring; eats a mellow pear; renewed poultice, and removed three more of the superficial sutures; the erysipelatous redness is fading out; the edges are for the most part united; a small sinus at the lower angle is discharging a little pus, and a deeper sinus at the upper angle discharges, much more freely, a yellow, rather thin and ill-smelling pus; dress with carbolic lotion on the poultice; she has had no morphine since 2 A. M., and is quite easy and cheerful. 1 P. M.—Pulse 96; 4 ounces urine; half grain morphia per anum; stop poultice, and substitute carbolic lotion on cloths; changed her clothing. 4 P. M.—Pulse 96; 2 ounces of urine;

dressed wound; pus is discharging freely; passed a sound deep down into the abdominal wall, but does not enter the cavity. 6 P. M.—Pulse 96; skin moist; temperature natural; renewed carbolic lotion, and gave half grain morphia per anum. 8 P. M.—Pulse 96; 4 ounces urine; vomited a piece of the pear eaten; renewed carbolic lotion; gave half grain morphia per anum. 12 P. M.—Pulse 100; 2 ounces of urine; renewed carbolic dressing; probe now enters the peritoneal cavity, and 2 ounces of ill-smelling pus escaped; gave half grain morphia per anum. 12 P. M.—Had half grain morphia per anum.

Eighth Day.—1 A. M.—Removed another superficial suture and inserted a compressed sponge tent into the sinus, to secure free exit for pus. 3 A. M.—Pulse 100; 4 ounces urine; gave half grain morphia per anum; removed the sponge tent; it has opened up the sinus admirably, and pus wells up freely from the cavity now; a good, thick laudable pus; the odor is not so offensive; the sanguineous discharge from the vagina has returned again. 7 A. M.—Pulse 80; 4 ounces urine, with sediment; removed three more superficial sutures, and renewed carbolic dressing; she feels more comfortable this morning; moves herself with ease; there seems to be some hardness in the right iliac fossa, which is dull on percussion, and yields pus when the sinus is pressed upon; elsewhere the abdomen is soft and resonant; the sinus is freely open, but not much pus is discharged; injected the cavity with one ounce of very weak carbolic lotion, which came back tinged with pus. 12 M.—Pulse 84; 4 ounces urine; half grain morphia per anum; vomited milk-curd and bile; stomach a little disordered from the pear on yesterday. 4 P. M.—Pulse 84; slight vomiting; half grain morphia per anum; takes lime water and milk more freely. 5½ P. M.—Threw into the abdomen 3 ounces of carbolic water, which returned promptly, with some pus. 6½ P. M.—Pulse 80; 6 ounces urine; still some nausea; the tongue is red and fissured, which is usual with her in her attacks. 9 P. M.—Had three-fourths of a grain of morphia per anum. 10 P. M.—Pulse 84; skin warm and rather dry; not much influence of morphia. 11 P.

M.—Pulse 84; 4 ounces urine; dressed abdomen; there is but little pus; the bad odor is nearly gone.

Ninth Day.—1 *A. M.*—Pulse 84; has not rested well; gave 1 grain morphia per anum. 4 A. M.—Pulse 84; 5 ounces urine; dressed wound; moderate discharge of pus, with but little odor; she has slept well since 1 A. M.; skin natural, no sweat; stomach quiet. 8 A. M.—Pulse 84; 5 ounces urine, clear; skin is dry; and a little too warm; very little pus; bad odor entirely gone; wound granulating; says she is better than at any time since the operation. 9 A. M.—Pulse 80; half grain morphia per anum. 2 P. M.—Pulse 88; skin warm and dry; 8 ounces urine, clear and bright color; dressed wound; very little pus; abdomen is now flat and natural. 5½ P. M.—Pulse 88; skin moist; gave half grain morphia per anum; has had a very comfortable day. 8 P. M.—Four ounces urine; dressed wound. 10 P. M.—Pulse 88; 1 grain morphia per anum. 12 P. M.—Pulse 88; 3 ounces urine; and resting well; no pain, but restless.

Tenth Day.—4½ *A. M.*—Pulse 100; 3 ounces urine; 1 grain morphia per anum; she has not rested quite so well; wound is gaping a little by yielding of tissues from the deep sutures. 7 A. M.—Pulse 96; comfortable; has slept. 10 A. M.—Pulse 96; 4 ounces urine; dressed the wound; tightened the deep sutures by putting on a fresh ball below the old one—a slit sawed into the centre of the ball and compressed upon the wire like a boy's "sinker" on a fish-line; drew the edges well together with three long adhesive strips; very little pus; no bad smell; administered an enema, half pint warm soap-suds, which was allowed to remain. 12 M.—Pulse 96; resting comfortably; enema has not returned. 2 P. M.—Pulse 92; 2 ounces urine; resting quietly. 3 P. M.—She has had a nervous chill, lasted five to eight minutes; extremities congested and warm; gave 1 grain of morphia, 2 drachms brandy per orem; reaction soon came on, with pulse of 120; hot, moist skin; complained of urine—drew 1 ounce; there is tumefaction and great tenderness of the urethra. 4 P. M.—Pulse 112; skin moist, and cooler. 4½ P.

M.---Enema repeated, and the bowels moved. 5½ P. M.---Gave 1 grain morphia per anum. 6½ P. M.---Pulse 96; free sweating; dressed the wound; two of the balls have ulcerated through the skin, and are buried deep down in the abdominal walls; they were extracted with some difficulty, and all the deep sutures removed; wound supported by adhesive strips; there are now three sinuses for pus extending down into the cavity---one at the upper angle, and two where the balls had ulcerated through; injected a little carbolic water at each of the three openings, and washed out a little pus; the carbolic lotion tends to loosen the strips; substituted simple cerate dressing. 9 P. M.---Pulse 88; 1 grain morphia per anum; she is drenched with perspiration, and complains of restlessness. 11½ P. M.---Eight ounces urine; skin is warmer, and less perspiration.

Eleventh Day—1 *A. M.*—Gave half grain morphia per anum. 3 A. M.—Pulse 80; two ounces urine; skin warm, and drying off; took 5 drops tincture iron in ice water. 5 A. M.---Half grain morphia per anum. 6½ A. M.---Pulse 80; just awakened from a long and quiet nap; the skin is natural, the tongue moist, the countenance serene; says she feels much better; the night has been much more comfortable than the previous one. 9½ A. M.---Pulse 88; skin natural; feels more comfortable than at any time since the operation; drew off four ounces of urine, high-colored; gave half grain morphia, and seven drops tincture iron in ice water, per orem, to allow the rectum to regain its muscular tone; dressed wound---it looks healthy; washed out a little pus with syringe, and strapped closely. 1 P. M.---Pulse 92; 3 ounces urine; dressed wound; very little pus; gave half grain morphia and ten drops tincture iron per orem. 4½ P. M.—Pulse 92; 2 ounces urine; dressed wound; expresses herself as "feeling very comfortable." 6 P. M.—Pulse 100; skin warm and dry; sanguineous vaginal discharge again; gave half grain morphia and ten drops tincture iron. 8 P. M.—Pulse 100; sleeping. 9 P. M.—Six ounces urine; gave half grain morphia and ten drops tincture iron per orem.

Twelfth Day—12½ *A. M.*—Pulse 100; 3 ounces urine; half grain morphia and ten drops tincture iron per orem. 3½ A. M. Pulse 120; restless; gave half grain morphia and ten drops tincture iron. 7 A. M.—Pulse 96; dressed wound; a mere stain of pus; granulating rather feebly; administered enema of soap and water, which brought away a good, large, pasty evacuation, quite healthy in character, and showing that the purgatives had not properly evacuated the bowels prior to the operation; in about fifteen minutes had another large fæcal evacuation; cannot pass urine voluntarily, yet drew, with catheter, eight ounces. 9 A. M.—Pulse 96; skin natural; had half a grain morphia and ten drops tincture of iron. 1½ P. M.—Pulse 84; skin cool and soft. 2 P. M.—Pulse 88; perspiration. 5 P. M.—Pulse 88; skin natural; drew 8 ounces urine, very red and turbid; dressed wound; straps are holding well; mere stain of pus; everything looks very healthy; gave half grain morphia and ten drops tincture iron per orem. 9 P. M.—Pulse 96; 4 ounces urine, quite red; gave half grain morphia and ten drops tincture iron.

Thirteenth Day.—12½ *A. M.*—Pulse 108; skin hot and dry; 4 ounces urine, more natural; half grain morphia and 10 drops tincture iron per orem. 2 A. M.—Pulse 100; sleeping. 4½ A. M.—Half grain morphia and 10 drops tincture iron per orem. 7. A. M.—Pulse 84; skin gently moist; drew 8 ounces urine; pretty red, not muddy. 11 A. M.—Had half grain morphia and 10 drops tincture iron per orem. 12 M.—Pulse 84; gentle perspiraton; drew 5 ounces clear, normal urine. 5 P. M.—Pulse 80; drew 5 ounces urine; dressed wound; granulating; no pus; had half grain morphia and 10 drops tincture iron.

Fourteenth Day.—2 *A. M.*—Had half grain morphia and 10 drops tincture iron. 3 A. M.—Pulse 80; drew 5 ounces urine. 8 A. M.—Pulse 76; administered a soap-suds enema, which brought another large fæcal evacuation; wound is granulating slowly; drew 6 ounces clear urine. 9½ A. M.—Half grain morphia and 10 drops iron. 1 P. M.—Pulse 80; very com-

fortable; "feels that she is getting well." 3 P. M.—Pulse 76; urine 8 ounces, natural. 6 P. M.—Pulse 80; had half grain morphia and ten drops tincture iron. 9½ P. M.—Pulse 84; 6 ounces clear urine; had half grain morphia and 10 drops tincture iron.

Fifteenth Day.—1½ *A. M.*—Pulse 88; drew 5 ounces urine; had half grain morphia and 10 drops tincture iron. 8½ A. M.—Pulse 76; urine evacuated normally for the first time since the operation; enema given; had another large fæcal movement; we are surprised at the large intestinal accumulation; had 10 drops tincture iron. 2 P. M.—Gave 15 drops tincture iron. 5½ P. M.—Had half grain morphia and 12 drops tincture iron. 11 P. M.—Had half grain morphia per orem.

Sixteenth Day.—1½ *A. M.*—Half grain morphia per orem. 9 A. M.—Dressed wound; lips are adhering nicely; no pus, except a little at the lower angle; urine was passed voluntarily three times during the night; there is considerable scalding during micturition; administered enema; bowels moved, blackened by the iron; she rested quietly all night, but did not sleep very soundly; sat up in a chair to have her bed made this morning. 8½ P. M.—Had 1 grain morphia per orem.

Seventeenth Day.—8 *A. M.*—Rested well and quietly last night; sat up half an hour this morning to have her bed made. 6 P. M.—Has passed a comfortable day. 8½ P. M.—Had 1 grain morphia per orem.

Eighteenth Day.—8 *A. M.*—Rested quietly all night; slept the first half; wakeful but quiet the latter half; gave enema, but no action; the plasters upon the wound have remained since the sixteenth day; they still hold good; the wound seems to be healing, except at the lower angle. The plasters, which are English isinglass on heavy bleached linen, are vesicating the skin a little; there is yet scalding in micturition. 6 P. M.—Had a quiet day; bowels moved by enema; ordered 10 drops tincture iron three times daily, and 1 grain morphia at bedtime; she had another action of the bowels during the night, without assistance.

Nineteenth Day.—8 *A. M.*—Rested quietly all night, but did not sleep more than three or four hours; says she is always a night hawk in health; her condition is very satisfactory every way; sat up three-quarters of an hour. 6 P. M.—Comfortable day; no action of the bowels; took a grain of morphia last night; the urine is still very painful in passing the urethra.

Twentieth Day—8 A. M.—Rested well, and seems bright; sat up three-quarters of an hour; enema; bowels moved; the isinglass plaster, which has now remained on four days, still holds, but it has irritated the wound, and caused portions of the adhesions to melt down, so that it is not doing well; removed it, and applied adhesive strips and simple cerate dressing. 6 P. M.—She has suffered a good deal through the day with urethritis.

Twenty-first Day—8 *A. M.*—Rested badly last night; bowels moved by enema; injected urethra with 10-grain solution of nitrate of silver. 6 P. M.—Feels much better; voids urine with much less pain.

Twenty-second Day—8 *A. M.*—Rested well; feels bright; urine still painful; repeated the injection of nitrate of silver; the wound is dressed twice daily.

Twenty-third Day.—Rested well last night; makes complaint of the bladder; there is now a good deal of vesical mucus in the urine; discontinued the nitrate of silver, and ordered injections of solution chlorate potassa three or four times daily, which she says comforts her greatly; at 1 P. M., there was a slight nervous chill, with colicky pains in the bowels; administered enema, and brought away a large amount of hardened fæces, to her great relief.

Twenty-fourth Day.—Rested well last night; the bladder is much more comfortable; there is very little vesical mucus discharged; the wound is healed, except the lower angle, which granulates very lazily, on account of the difficulty in keeping the parts approximated; plaster is very poor, and does not adhere well; she is cheerful and bright; gave seidlitz morning and noon, but did not operate; bowels relieved by enema; she

has a grain of morphia each night, and 10 drops elixir vitriol thrice daily.

Twenty-fifth Day.—Had a good night; the pain in micturition is rather more to-day; wound is healing well, under the stimulus of occasional touching with nitrate silver; gave Seidlitz; no action; enema moved the bowels slightly.

Twenty-sixth Day.—Bowels moved by enema; there is much undigested food in the evacuations, and she complains of colicky pains in the bowels; administered a half grain calomel, which moved the bowels twice during the afternoon; the wound is healing and the bladder improving.

Thirty-first Day.—Recovery has slowly progressed, retarded only by indigestion, with some colicky pains; due, as I think, to the very free use of morphia during the treatment; the wound is essentially healed, and the pain in micturition is disappearing.

REMARKS.

The bed-notes in this case were all taken by myself at the bedside, both by day and by night, and they are given as they were taken down, from hour to hour—often with a tired hand and aching brain—without addition or alteration. This fact may explain some imperfections and crudities.

The patient had become habituated to the use of morphia—taken to mitigate her long years of suffering—and her usual dose for the relief of pain had been gradually augmented to a full grain of the sulphate.

On the second day the weather became intensely hot, and so continued up to the fourteenth day, without a drop of rain to cool the burning earth. The thermometer ranged from 90° to 98° in the shade, and the heat was exceedingly oppressive.

It is my deliberate opinion that I *have often seen this young lady suffer as much in body and mind, and equally as much in peril to her life, from her amenorrhœal paroxysms, as she has suffered from the surgical procedure to which I have subjected her.* This opinion is fully corroborated by the experience of

the patient and by the observation of her friends, in as far as they are capable of judging.

While disclaiming all desire to share any portion of the responsibility of this operation with others, and making no intimation as to individual views privately communicated to me, I desire publicly to express my thanks to Prof. S. D. Gross, of Philadelphia; to Prof. Paul F. Eve, of Nashville; to Prof. Horatio R. Storer, of Boston; and to Prof. W. F. Westmoreland, of Atlanta, for valuable professional courtesies in connection with this case.

As far as my means of information enable me to judge, this operation is *unique* in the annals of surgery—the nearest approximation to it being in the celebrated case of Percival Pott, which is so distinctly stated in his "Chirurgical Works," I may well close my report by its recital:

"A healthy young woman, about twenty-three, was taken into St. Bartholomew's Hospital on account of two small swellings, one in each groin, which, for some months, had been so painful that she could not do her work as a servant.

"The tumors were perfectly free from inflammation—were soft, unequal in their surface, very movable, and lay just on the outside of the tendons, opening in each of the oblique muscles, through which they seemed to have passed.

"The woman was in full health, large-breasted, stout, and menstruated regularly; had no obstruction to the discharge per anum, nor any complaint but what arose from the uneasiness these tumors gave her when she stooped or moved so as to press them.

"She was the patient of Mr. Nourse. He let her blood and purged her, and took all possible pains to restore the parts through the openings, through which they had clearly passed out. He found all his attempts fruitless, as did Mr. Sainthill and myself, and the woman being incapacitated from getting her bread, and desirous to submit to anything for relief, it was agreed to remove them.

"The skin and membrana adiposa being divided, a fine

membranous bag came into view, in which was a body so exactly resembling a human ovarium that it was impossible to take it for anything else; a ligature was made on it, close to the tendon, and it was cut off. The same operation was done on the other side; and the appearance, both at the time of operating and in the examination of parts removed, was exactly the same.

"She has enjoyed good health ever since, but has become thinner and more apparently muscular; her breasts, which were large, are gone; nor has she ever menstruated since the operation, which is now some years."

NOTE.—See editorial comment.—ED.

ART. II.—OVARIOTOMY BY ENUCLEATION, WITHOUT CLAMP, LIGATURE, OR CAUTERY. By J. F. MINER, M. D., Professor of Special Surgery in the University of Buffalo, Attending Surgeon to the Buffalo General Hospital, and to the Hospital of the Sisters of Charity.

In proposing a new method of procedure in so important an operation as ovariotomy, it is quite becoming, at least, to state the facts upon which the proposition rests, and leave others to draw their own conclusions.

During an active surgical practice of twenty-five years, I have been in the habit of enucleating solid and cystic tumors from all the important surgical regions, following in this the example and teaching of surgeons generally. We have all felt a safety, when attempting to remove these morbid growths, if we could find a well-marked boundary where the morbid could be separated from the healthy tissue by the finger or the handle of the scalpel; indeed, but for expectation of finding a well-defined boundary to be thus broken up, the removal of many of these tumors would never be attempted. Surgeons have always, so far as I know, been in the habit of *enucleating* all other tumors, not inextricably joined to the surrounding tissues, so that, upon a little reflection, it will appear strange that it should

not earlier have been tried in ovariotomy, rather than that it should now be proposed and urged upon the Profession for trial.

No surgeon in the world was ever more surprised at what he had done than myself, when I found that I had removed a large ovarian tumor without ligating a single vessel, and without any hæmorrhage worthy of notice.

My first observation and experience in this procedure occurred in April, 1869, and the case was reported in detail in the "Buffalo Medical and Surgical Journal" for June of the same year.

I was invited to remove an immense ovarian tumor of two years' growth, which had been repeatedly tapped, but the contents at length proved too thick to be drawn through the largest sized canula, and, distress becoming too great for endurance, any operation which would end it, whatever might be the result, was gladly accepted. The tumor was multilocular, weighing, as near as could be determined, one hundred pounds. It was attached through its entire circumference to the omentum, intestines, walls of the abdomen, and all other parts with which it came in contact. These attachments were not so firm but that they could be broken up, and with great care the tumor was separated from the surrounding parts until the pedicle was reached. The process of enucleation had been carried on so successfully and so extensively, that encouragement was afforded for continued trial. The pedicle was large, and extended over a wide surface, but by careful and patient effort, it was separated from its entire attachment to the tumor, and the immense growth removed without the ligation of a single vessel. The terminal branches of the vessels of the pedicle gave out no more blood than issued from the vessels of the attachments elsewhere, and there appeared no more occasion for the ligature here than elsewhere. All hæmorrhage soon ceased, and the incision was closed by interrupted suture. The success of this procedure was complete, and the patient continued to improve, declaring herself quite well at the end of about two weeks, without having had an unfavorable symptom. She now commenced to lose

her relish for food, grew weak and desponding, and died from exhaustion on the twenty-first day after the operation. The fatal termination detracted nothing from the success of this mode of treating the pedicle; indeed, so remarkable was the size and attachment of the tumor, that any attempt at recovery was surprising, and yet the feeble, emaciated, exhausted patient continued to live long enough to show that this manner of treating the pedicle was, at least in her case, unobjectionable.

The second opportunity I had of testing the feasibility and safety of this plan, was in the case of a German woman, aged sixty-six, in the Buffalo General Hospital, during December of the same year. She was of feeble and delicate appearance, and considerably emaciated. The operation was made in presence of the students of the Buffalo Medical College, and many physicians, and I was assisted by my colleagues, both of the College Faculty and Hospital Staff. This tumor was found also attached to the walls of the abdomen and omentum, but the adhesions were readily broken up. The cysts were emptied to some extent, and the tumor raised from the cavity of the abdomen. On reaching the pedicle it was found large, its principal artery throbbing distinctly. Commencing at the base of the pedicle, the fingers underneath all, it was gently separated or torn from the cyst, following out the vessels to their final termination, as they extended over the walls of the tumor. Upon removal it was found to weigh seventy-one pounds, and to be composed of numerous cysts. The bands of vessels composing the pedicle, when separated from the tumor, contracted so as to corrugate the vessels and leave the pedicle appearing almost as if divided by a knife. To the surprise of my associates, little hæmorrhage followed the separation, less than attended separation of the bands of attachment elsewhere. She recovered from the anæsthetic, received the congratulation of her friends, and seemed very comfortable. By misunderstanding of attendants she received, after four hours, a second subcutaneous injection of one-half grain of morphia, and soon appeared as if narcot-

ized. From this she could not be aroused, and she died eighteen hours after the operation.

Post-mortem examination showed no hæmorrhage, and we inferred that death was from either an overdose of morphia, or shock, or both combined.

These and some other similar cases were soon after published in the "Buffalo Medical and Surgical Journal" in connection with remarks as to the safety and general advantages of this method of operation, and since then other surgeons have added their experience to my own, so that I am no longer confined to personal observation alone, repeated trial having made it *certain* that the ovarian tumor can be removed without the ligation of vessels, thus leaving no pedicle to treat.

It is well known that all the difficulties and many of the dangers of this operation have depended upon the pedicle, its length, size of vessels, modes of treatment, etc., etc., so that a proposition to avoid all these, all clamp, cautery, and ligature, and really have no pedicle, may naturally appear startling to surgeons who have tied large vessels in the operation, or have witnessed the fearful hæmorrhage which sometimes takes place from slipping of clamp or ligature; a moment's reflection will, however, remove the surprise. The ovarian tumor is composed of a firm, dense, fibrous cyst, containing fluid of varied color and composition. It may, and it may not, have a solid portion, but usually it does have more or less of the latter, and it is often divided into numerous smaller cysts; cysts within cysts. Externally it has this dense, firm covering, and the vessels which sustain the growth enter it, if at all, only of capillary size. The attachment of the pedicle to the cyst is much more easily broken than any one would suspect who has not attempted its separation in the manner described. The same efforts which are made to separate the adhesions elsewhere, if extended to the pedicle, will be found equally successful. The finger should be introduced under the central portion of the pedicle, fully down upon the cyst, and by a gentle elevation followed out along the fasciculi of vessels, as they extend over the walls of

the tumor; nothing can be more easy of execution, or more readily accomplished. Other similar cases might be related, but I choose to refer to the experience of others in confirmation of my proposition, rather than multiply cases of my own. Professor Thomas, in his recent work on "Diseases of Women," states:

"I have resorted to this method advised by Dr. Miner, of Buffalo, New York, three times, with good results, in cases which would have proved unmanageable by other means. * * * * It appears to me to be the most valuable of all the contributions to ovariotomy which have emanated from this country."

Richard H. Meade, Esq., Consulting Surgeon to the Bradford Infirmary, England, relates a case in which he performed ovariotomy, and observes:

"When I commenced the above operation I had no idea of imitating his (Dr. Miner's) proceeding, but when the tumor (to my horror at the time) enucleated itself, and there appeared to be no bleeding from the pedicle, I determined to follow his example, and leave the torn surface unsecured, thinking that the risk from hæmorrhage was less than from inflammation from the presence of a foreign body in the peritoneal cavity. My case turned out successfully, and I think I should venture to repeat the proceeding in some special cases."—*British Med. Jour.*, Nov. 26, 1870, p. 577.

Thus it will be seen that the experience of other surgeons was early found to agree with my own, and my convictions of its safety and propriety strengthened. More recent observations have confirmed and made it, I think, *certain* that ovarian tumors can be removed as other cystic tumors are removed, by *enucleation*, that is, by separation from the vessels and tissues by which they are surrounded and nourished, that it can be done without hæmorrhage, and without ligation of vessels, thus avoiding many of the dangers attending the operation, such as secondary hæmorrhage, as where large vessels are ligated or secured by the clamp; the débris of burnt tissue, as a source of

peritoneal inflammation, where the cautery has been employed; the decomposition of parts strangulated beyond the ligature, when all is returned into the abdominal cavity, or the keeping open of the incision if the pedicle is placed in the lower angle of the wound; in a word, avoiding all the difficulties and dangers attending the treatment of the pedicle.

At the risk of my being tiresome to my readers, I will refer to some of the particulars of my last operation, as it illustrates what may be hoped for in this method of removing these growths.

My friend, Dr. S. F. Mixer, of Buffalo, who had already become familiar with this plan of operation in ovariotomy, invited me to remove an ovarian tumor, in May last, from a young lady twenty-two years old, of nervous, delicate temperament. The growth had been noticed for only about six months; consequently was rapid in formation, and exactly the kind to test, so far as any one case could test, the safety of enucleation. After the patient was fully under the influence of chloroform, an incision about four inches in length was made, exposing the tumor. The body was found directly under the incision, and was attached to the walls of the abdomen for a diameter of four or five inches. This being separated, a large trocar and canula were introduced, through which the contents of the cyst escaped, and the tumor was drawn through the opening and raised from the cavity of the abdomen. The pedicle was now carefully separated from the cyst, beginning at its central portion, and peeling the vessels and tissues by which they were surrounded from the walls of the tumor. This was readily effected, and the tumor, weighing eighteen pounds, removed. Two small vessels bled a little, and torsion was made with artery forceps. No further hæmorrhage, indeed no hæmorrhage worthy of mention attended the separation which would not have ceased spontaneously in a few minutes. The abdomen was sponged of all blood, serum, and such contents of the cyst as had escaped, and the wound closed by interrupted silver suture, supported by adhesive strips passing around the body, and the

patient placed in bed. She vomited that night several times, apparently from the effects of the chloroform, which, with the anxieties of the operation, increased the pulse to 120 per minute. After this subsided, or after the first forty-eight hours, the patient had no further symptom of disease, pulse became natural; appetite good, expression cheerful; no pain, tenderness, swelling or suppuration followed. The patient was not made ill by the operation.

Whoever had seen ovariotomy performed by any of the other methods, and had then witnessed the ease, rapidity, absence of hæmorrhage, and completeness of this surgical procedure, could not but be impressed with the safety and superiority of this over any other method before proposed.

It will be asked, can all ovarian tumors be removed by this method? Perhaps it is not possible to remove all ovarian tumors by any plan of procedure. Certain it is, that surgeons have been in the habit of making what they term exploratory incisions, and in some cases abandoning the undertaking. These abandoned cases were formerly very numerous, but the discovery that adhesions did not make it impracticable to proceed, reduced the number very greatly. Many of the cases formerly abandoned could, beyond doubt, have been removed by enucleation, and similar ones are now removed, not only by this, but by all other methods of operation. The "exploratory incision," so called, will remain, as expressive of a condition of things not anticipated by the surgeon, so long as it remains impossible to make in all cases positive and definite diagnosis; but it is believed that all ovarian tumors capable of removal can be removed by the method proposed, with advantages so manifestly superior, as to commend it for trial, before resorting to any other plan.

It may here be remarked that the enucleation of the cyst does not in the least interfere with the subsequent adoption of any method found necessary for the arrest of hæmorrhage; but careful study of the best methods of enucleation will prevent resort to any other expedient. The methods of enucleation are

to be studied, but thus far no difficulty has been encountered in separating the pedicle from the cyst; it is astonishing how readily it is accomplished. The finger is easily inserted fully down on the cyst, at the base of the pedicle, and the strands or bundles traced out by a gentle lifting process to their final termination upon the sides or walls of the tumor. If any vessel, larger or less corrugated than the rest, should afford troublesome hæmorrhage after a few minute's exposure, it should be twisted after the usual method of torsion for arrest of hæmorrhage, or subjected to the action of Dr. Speirs's artery constrictor should it prove to act more efficiently than torsion, or if, as might possibly occur, from hasty or imperfect manipulation in separating the pedicle, a larger vessel should be ruptured, a small metal ligature may be applied, and, thus supplemented, *all ovarian tumors capable of removal can be*, and I am convinced *should be, removed by enucleation.—Buffalo Med. Jour.*

ART. III.—TOTAL NECROSIS OF DIAPHYSIS OF TIBIA—PERIOSTEUM NOT NECESSARY FOR OSTEO-GENESIS. By E. BURKE, HAYWOOD, M. D., Raleigh, N. C.

On the 19th of April, 1871, I was called in consultation with Drs. W. H. and James McKee, Royster, Little, and F. J. Haywood, Jr., to see Cannady Lowe, aged thirteen years, who, in August, 1870, whilst chopping wood, was struck violently on the right tibia by a piece of the wood. Cannady is the son of a farmer, in whose family there is a scrofulous diathesis. Up to this time his health had been very good. He was soon after seized with severe pain in the right tibia of such violence as to prevent rest or sleep by day or night. Suppurative periostitis supervened as the result of the severe contusion, terminating in osteitis and osteo-myelitis. At this time he was living in the country, and was under the care of a physician near him. When first seen by us he was somewhat emaciated and exhausted by hectic fever and long-continued suppuration. The

right leg had several sinuses in it; through the largest of these, situated near the tubercle of the tibia, there protruded necrosed bone.

Upon consultation we agreed that an operation was necessary to save his limb and probably his life, and as the entire tibia seemed diseased, amputation at the knee-joint would probably be required. This, however, to be decided on after he was etherized and exploratory incisions had been made. He was etherized by Dr. F. J. Haywood, Jr. I then made an incision through the integuments, commencing at the upper sinus and extending down the tibia for eight inches. Upon everting the edges of this incision, there was found to be total necrosis of the diaphysis of the tibia. There was not a vestige of the periosteum or any involucrum to be seen. The dead bone was *in situ* as a foreign body, surrounded by the soft parts which were granulating and suppurating. The necrosed portion of the tibia was easily detached by cutting-pliers and sequestrum forceps, and lifted out, leaving a cavity whose sides showed no signs of periosteum, or new bone. The attention of the medical gentlemen present being called to this singular condition of the parts, it was agreed that an amputation at the knee-joint would be best, but his friends positively refused to allow it. I yielded to their decision with little reluctance, because I thought this a very good case to test the necessity of the osteogenetic function of the periosteum in the regeneration of bone. The cavity in the soft parts was carefully freed of foreign matters and washed out, and the incision closed by sutures and adhesive strips. He was directed to be kept in the recumbent posture, the limbs in an external position, and quiet, a generous diet with tonics, to be given, and as soon as the leg could bear it, to wear a binder's board, or stiff leather splint on the inside of the leg, and to use crutches. He was then left with Dr. James McKee for further directions and treatment.

On the 14th of May, 1872, more than a year after the performance of the operation, I was very much gratified by seeing Cannady Lowe able to walk without a crutch or stick. Upon

an examination of his leg, I found that almost an entire new tibia had been formed, which, although not as symmetrical as the one in the left leg, was firm and solid, and served admirably for locomotion. This leg was shortened but half an inch, caused by the slightly bending outwards of the fibula. His right foot is smaller than the left from long-continued disuse. He informed me that after the operation he was confined to his bed not longer than six weeks, so rapid was the formation and consolidation of the new bone. He is now in as good health as he ever was, and is rapidly gaining in weight and strength. I carried him to see the medical gentlemen who were present at the operation, who were as much gratified at the result as myself, not having entertained any sanguine hopes of the formation of a new tibia, when the old one was totally necrosed for so many inches, and no signs of periosteum visible.

I annex some extracts from a very able and interesting paper on "The Relations of the Periosteum to Osteo-Genesis," in the numbers for January, 1866, and January, 1868, of the "Richmond Medical Journal," by its editor, E. S. Gaillard, M. D.

"In the practice and literature of surgery no fallacy is, apparently, more frequently accepted as truth than that the periosteum is necessary to osteo-genesis; that it is indispensable for the vitality and reparation of bone.

"By many of our most respectable authorities, both in the library and in the lecture-room, such doctrine is, however, taught, and we are told, that where bone is deprived of its periosteum, it must die; that in such an event, it is the part of good surgery to anticipate nature in its removal.

"It is not unusual, at operating tables, to witness the removal of fragments of bone, which, though stripped of their periosteal investment, have yet their histologic connection, with the medullary structure uninjured; to see the chain-saw and bone-pliers applied to the extremities of bone which had been only denuded of their periosteum.

"If it can be demonstrated that the fragments thus removed would have soon coöperated in reëstablishing osseous integrity,

and that the ends of bones, so mutilated, would have soon been recovered with periosteum, and restored, by nature, to their normal condition, it is evident that much of the surgical interference, now so frequently instituted, would be justly condemned as injurious and unnecessary.

"As in the animal economy 'the blood is the life thereof,' of course neither the original formation of bone, nor its reparation, can ever occur, without a physiologically complete circulation; if any tissue be deprived of its blood, either by obstruction of the circulation or as the result of violence, it must die.

"The death of bone, when denuded of its periosteum, is attributed to this ostensible cause, that bone, for its growth, vitality and reparation, is dependent upon the blood obtained through the vessels of the periosteum. Is this a physiological truth?

"It is of course known to every tyro in anatomy, that the arteries distributed to the bones are usually divided into three classes.

"The first class is that which is supplied from the periosteum; these vessels are small in character and indefinite in number, penetrating the cancellated structure of the bone and inosculating, by their radicles, with the capillaries of the first and second class.

"The arteries of the second class penetrate directly, by foramina, the extremities of the long bones; in other bones they enter, at no common point, but irregularly.

"The third class consists of the medullary artery, penetrating, by its proper foramen, near the centre of the bone.

"'The arteries of the first two classes are generally extremely small, and ramify upon the compact and cellular structure, penetrating it in every direction and anastomose with the radicles of the nutrient (medullary) artery.'

"It is thus evident that the radicles of the medullary artery freely anastomose, as well with the capillaries of the arteries penetrating the ends of the bones as with those of the arteries derived from the periosteum, and that, in the event of denuda-

tion of the periosteum, the cancellated structure of the bone is fully supplied with blood, from the anastomosis existing between the radicles of the medullary artery and the capillaries of the arteries penetrating the bones at their ends; or, as may be more clearly and now more briefly stated, the cancellated structure of the bone is, for its vitality and reparation, independent of the supply of blood derived from the arteries of the periosteum.

"These facts are known to every careful anatomist; the only subject of uncertainty being as to the completeness of this capillary inosculation and its supplementary adequacy for sustaining, thoroughly, the vitality of the cancellated structure when the periosteal vessels have been ruptured. That this anastomosis is entirely sufficient for the objects to be accomplished, may now be admitted as one of the facts and demonstrations of surgery.

"Mr. Cooper was of the opinion 'that the external and internal periosteum bear strict resemblance to the cellular neurilemma of a nerve, to the membranous covering of the sarcolemma of a muscle, and to the parenchyma of the various viscera, each being for the same purpose, that of forming a nidus or basement for the products eliminated from the blood.' He also states that the importance of the medullary circulation, in the formation of bone, 'may be proved by destroying the medullary membrane in the bone of a living animal, when the inflammation which is consequently set up extends to the EXTERNAL periosteum'; showing thus the intimate connection existing, not only between the medullary membrane and the periosteum, but between the medullary membrane and the cancellated structure, which is, of course, the medium of communication.

"Attention is called to the fact that, in the opinion of this great anatomist and surgeon, the medullary membrane is just as much, functionally and physiologically, a periosteum as the external, investing membrane, which we are in the habit of, exclusively, calling by this name.

"It is an important fact, that Flourens, in his experiments

with madder for determining the histologic nutrition, observed that the coloring of the bone was manifest throughout its entire extent, though the coloring matter was first deposited or manifested immediately under the external periosteum. The results of these experiments only serve to confirm and establish facts first demonstrated by Hales, Duhamel, John Hunter, Tomes, and others. Tomes indeed mentions the interesting fact, that in the growth of bone 'the sides of the shaft, in particular, acquire greater solidity by the narrowing of the Haversian canals, within which *the vascular membrane goes on depositing fresh layers of bone, and madder administered while this process is going on, colors the interior and recently-formed laminæ so that, in a cross section, the Haversian appertures appear surrounded with a red ring.*'

"It is thus proved that the deposit of bone, as manifested by the coloring matter indicated, is not exclusively centripetal in action (showing thus a preponderance of the peristeal circulation), but that such deposit occurs internally as well as externally; from the 'vessels of the vascular membrane,' as well as from the external periosteum. *It is therefore proved that bone derives its vitality and nutrition as well from the medullary circulation as from the vessels of the periosteum*, and that it is illogical and unphysiological to assume, *because one of the classes of blood vessels engaged in osteo-genesis is injured, that bone may not both be formed and nourished from that other and co-ordinate class which remains uninjured.*

"Craigil, in his elements of general and pathological anatomy, distinctly states that, 'though the periosteal vessels are the main agents of ossification *originally*, there is reason to believe that the medullary vessels contribute to its growth and nutrition after it is formed.'

"Collateral evidence, tending to prove that the periosteal investment is not essential to the production of bone, may be obtained from the phenomena of intra-uterine osteogeny.

"Many large and important muscles are, by extensive surfaces, attached directly to the bone, no periosteum intervening,

and there being no evidence of its ever having intervened or been instrumental in the formation of such portions of these bones. Such facts may be observed in the attachments of the quadriceps femoris, pectoralis major, deltoid, the latissimus dorsi, glutæi, triceps, gastrocnemii, etc.; also in the attachments of many ligaments; ligamentum patellæ, ilio-sacral, interrosseous ligaments, and the ligamenta sub-flava.

"It is thus evident that, in intra-uterine life, bone is manifestly formed where the periosteum does not exist, and that it is independent of the periosteal vessels for its vitality and growth.

"Though the medullary membrane has not been satisfactorily proved to exist in fœtal life, it is from the vessels forming subsequently the basis of this membrane that bone is developed and supported where the periosteum is absent.

"Is bone, in extra-uterine life, equally independent of the periosteum, in the event of injury or violence sustained by this membrane?

"In a recent work on histology, it is asserted, 'that the question whether plasma, from which the new osseous tissue is developed, is exuded by the periosteum or by other parts, is not as important as some authors seem to have held. Obviously, it makes no difference whether it be poured out by the vessels of the periosteum alone or not. Whencesoever derived, however, it can be organized into bone whilst in contact with bone. Hence the importance of leaving all the spiculæ of bone as centres of ossification, provided they are not so detached as to act as foreign bodies.'

"As satisfactory as is this evidence of the independence of bones (in their reparation) in regard to their periosteal investment, the testimony of Dr. Horner is still more complete.

"This writer states that 'some physiologists have attempted to give the periosteum the exclusive credit of the formation of callus. This view is erroneous, because experiments show that even when the periosteum is stripped designedly from the fractured ends of bones, they nevertheless unite, and the periosteum

is restored, when the callus is formed.' This testimony is particularly satisfactory, for it not only proves that bones denuded of their periosteum will unite independently of their periosteum, but that the periosteum is only redeveloped *after* callus has been formed, and is, consequently, *not the agent of reparation.*

"In a lecture on conservative surgery, delivered at the Royal College of Surgeons, June, 1864, by Sir William Ferguson, F. R. C. S., F. R. S., Professor of Surgery at this College, the following testimony is given. The high position which this gentleman justly fills entitles his opinions to entire respect and confidence: 'I believe it to be a common opinion, that when a piece of bone is bare or a joint grates, there is no probability of recovery in the part, and that amputation is the proper course. *This, however, is a great error,* for bare bone is covered again, in many instances, and a joint may be still so far restored that there may be a certain amount of motion in it. Even when bone *is* dead nature causes a separation, and thus leads the way to its removal,' etc.

"As facts are, however, by the practical surgeon, more highly esteemed than opinions and deductions, however plausible, a report of two interesting and illustrative cases is herewith submitted.

"The first case occurred at the General Hospital, at Charlottesville, Va., in charge, at that time, of Dr. J. L. Cabell, through whom this report was originally obtained. The patient was immediately treated by Dr. F. L. Bronaugh, in charge of the ward, and subject, throughout the history of the case, to the supervision of Dr. J. S. Davis, in charge at the time of the Division.

"Drs. Cabell and Davis (in connection with Dr. Bronaugh) watched this case with interest and care, and there was on their part an entire unanimity relative to the opinions stated in the report.

"The history of the case proves that, under the most unpromising circumstances, the ends of bone denuded of periosteum will unite, and it is, so far as is known, the only case occurring

during the recent war which clearly illustrates and proves such a fact.

"CASE A.—'Sergeant W. P. C., company B, South Carolina infantry, Kershaw's brigade, etc., was wounded at the Wilderness, May 6, 1864, and was received at the hospital May 12th; aged twenty; previous health good; by occupation a farmer. The ball, presumed to be a conical leaden bullet, penetrated the right buttock four inches posterior to the trochanter major, and passing obliquely forward and downward, emerged at a point two inches in front and one inch below the trochanter. When admitted, the patient complained of great pain, was restless, desponding and feverish, with total want of appetite. The decubitus was left lateral, with right hip elevated and thrown forward. The daily arrival of a large number of cases, demanding immediate attention, precluded the possibility of a very careful examination of this case until the 17th May, at which time the patient was suffering from irritative fever in an alarming degree. A hard tumor was felt just below the inferior limits of the trochanter, on the outer aspect of the limb; it was supposed to be due to a displaced and separate fragment of bone. The patient was placed under the influence of chloroform, and an incision was made over the tumor, when it was ascertained that it was caused by the abduction (with flexion) of the upper fragment. The wound being explored with the finger, it was found that there was oblique fracture, without comminution, of the upper part of the shaft, and that the anterior aspect of the upper fragment *was stripped of its periosteum for two inches*—viz., *to the point of insertion of the capsular ligament. The case was so very unpromising that the question of the application of Smith's anterior splint was discussed, more with a view to affording some temporary relief to the sufferer than with any hope of ultimate success.*

"The splint was applied on the 18th instant, and with the effect of giving immediate relief to the patient. The impossibility of overcoming the extreme abduction of the upper fragment rendered it necessary to place the entire limb in a line of

direction corresponding with that of the upper fragment. The inflammatory tumefaction underwent a rapid abatement; the fever subsided and the appetite returned. No complication supervened. On the 28th of July a large sequestrum was removed, in several pieces. It represented a scale of bone from the anterior aspect of the upper fragment, and doubtless corresponded to the denuded portion above referred to. The splint had been removed on the 19th of July. He remained in bed until September 1st, when he made his first experiment by walking, with the aid of crutches. His limb was shortened about two inches.'

"On making further inquiry in regard to this case, it has been ascertained that this young man is now independent of his crutches, and is in excellent health.

"It will be evident, on reading the facts narrated in the next case, that the detachment of the sequestrum of bone in case A was not due to a stripping of the periosteum, but to a further action of the violence that caused the original fracture. That the force of the blow was expended as well upon the cancellated structure as upon the periosteum; for were the detachment of the sequestrum due alone to a denudation of the periosteum (and not also to violence inflicted upon the bone itself) there would have been, not the separation of a mere lamina of bone, but the injury would have extended through to the medullary structure. The force of this demonstration, however, will be more important when seeing, as in case B, that after the removal of the periosteum entire without the infliction of other violence upon the bone, *there was no sequestrum detached, but on the contrary, that the entire periosteal investment was reformed.* The second case (case B) was kindly sent by Dr. Le Grand Capers, well known in the late Confederate Army as a physician of close observation and uniform efficiency.

"CASE B.—'This case was one in which the entire scalp (integuments and pericranium) was forcibly removed from the frontal protuberance, around over the ears, and across the superior semi-circular ridge of the occiput, by that barbarous pro-

cess termed 'scalping.' The bone thus denuded was felt by the officers in charge, and by numerous officers of the garrison, as well as by myself. Over this extensive surface granulations soon formed, and in less than four weeks the entire bones were covered and protected by a thick, fleshy, granulating surface, covering every vestige of bony matter, and *this without either exfoliation or necrosis.* This rapid repair of the periosteal investment is still more remarkable, from the fact that the patient, a Mexican boy of eighteen years of age, having been left as dead by the Indians, was alone, sixty miles from the nearest fort, 'Phantom Hill,' and was several days in making this journey; the parts, during the interval, being exposed to the sun, the night air, and the dust of the road. From these causes several days intervened before he received the slightest attention. *The granulations were completely covered with cuticle by the sixth week, after which he experienced not the slightest inconvenience from the injury to the scalp; the pericranium having been completely restored and the vitality of the denuded cranial bones not having been in any respect impaired.'*

"This case is submitted without any comment whatever. It tells its own story.

"The importance of the periosteum is of course great, but it is often, if not always, overestimated.

"Dr. Toland, of California, first brought to the attention of the Profession (in 1854) the fact that the phalanges of the fingers would be reformed if the periosteum be preserved. This truth has been demonstrated in regard to other bones, and Dr. Peaslee, in his 'Histology,' states that the maxilla inferior, the costæ, the scapula, and the clavicle, have all been removed under these conditions. M. Maisonneuve has removed the tibia with the same result. Heine states that a rudimentary bone has been formed when the entire periosteum, as well as the bone, has been removed. It must be confessed, however, that this statement is to be regarded as a tentative appeal to the credulity of the Profession. Dr. Dudley, of Lexington, Ky., was the first or one of the first surgeons in America to

demonstrate the osteo-genetic function of the periosteum.

"Since the publication of these cases, showing that entire bones may be reformed if the periosteum be preserved, the importance of this membrane has been more than ever exaggerated, and the assumption has been almost unconsciously made, that if necessary to the regenesis of an entire bone, it is equally necessary for the reparation of a part of it.

"To sum up all that has been stated in this connection, it is evident that the prognosis which usually takes place, where bones are denuded of their periosteum, is not justified or warranted by recorded facts; that there is no physiological reason for assuming that the denuded bone will die, but, on the contrary, that it will usually be recovered with its periosteum and restored to its normal condition.

"If this important truth be recognized, surgical interference, in all cases of denuded bone, will be abandoned, and one step secured in the progress of conservative surgery."*

Billroth, in his "Surgical Pathology," edition of 1871, page 181, states, "That if we view the process as a whole, we see that the cell infiltration in the bone itself, as well as in all the surrounding parts, aids in the formation of callus, and that hence the periosteum plays no exclusive osteo-plastic role. This might have been concluded a priori, because, if the periosteum alone formed external callus, as was formerly supposed, the portions of the bone free from periosteum, as those places where tendons are attached to the bone, could form no callus; this is directly contradicted by observation."

In a treatise on the regeneration of bone, L'Ollier, Chief Surgeon to the Hotel Dieu of Lyons, states that the periosteum itself may be reproduced indefinitely.

Heine states that a rudimentary bone has been formed when the entire periosteum, as well as the bone, has been removed.

* When this article was first written, it was rejected by one of the largest medical journals at the North, on the ground that the teaching was untenable and behind the times, etc. Billroth, L'Ollier, and others, now advocate views absolutely similar. E. S. G.

According to the distinguished surgeon and pathologist, Billroth, the periosteum possesses no peculiar osteo-genetic power, and the formation of callus is due not to proliferation of previously existing cells, but to an accumulation of wandering cells, which, following Cohnheim, he looks upon as white blood corpuscles escaped from the vessels.—*Trans. N. C. Med. Society.*

ART. IV.—THE RIGHT TO EXTRA COMPENSATION WHEN SUMMONED AS A MEDICAL EXPERT ESTABLISHED.

James McKee, M. D., Secretary of the Medical Society of North Carolina: Dear Sir,—I am pleased to inform you that the right to extra compensation, when summoned as a medical expert, is now, for the first time, established in North Carolina by a decision of the Supreme Court, in the following case of mine, a copy of which I forward for the information of the Medical Profession in North Carolina.

Very respectfully,

E. BURKE HAYWOOD, M. D.

Raleigh, N. C.

STATE VS. GEORGE DOLLAR.

One summoned as an expert in a criminal action is entitled to extra compensation under the act of 1870–'71, chapter 139, section 133.

Motion to retax costs; heard before Watts, judge at special term, January, 1872, of Wake Superior Court.

The indictment was for rape, and Dr. E. Burke Haywood was summoned, not as a witness to any fact, but as a professional expert.

It was admitted that the State was liable to be taxed with the fee for his attendance as a witness.

The Clerk, in taxing the bill of costs, was presented by the witness with a bill for $10 as a proper fee for his attendance.

The Clerk declined to allow the same, and allowed the usual fee for attendance as a witness.

A motion was made before His Honor to retax the costs and allow the witness compensation as an expert. It was admitted that the fee of $10 was reasonable, provided witness could prove attendance as an expert.

His Honor was of opinion that the witness was not entitled to any compensation as an expert, and disallowed the motion, and directed the ordinary fee to be taxed.

From this judgment the witness, Dr. E. Burke Haywood, appealed to the Supreme Court.

Per Curiam. The act of 1870–'71, section 133, chapter 139, shows that the Court has power to allow compensation to a witness summoned as an expert. It is admitted in this case that $10 was a reasonable fee. The motion to retax should be allowed. This will be certified.—*North Carolina Reports*, January Term, 1872, vol. lxvi., page 626.—*Med. Transactions N. C. State Society.*

ART. V.—A CASE OF TRANSFUSION OF ARTERIAL BLOOD FROM THE CAROTID OF A LAMB INTO THE CEPHALIC VEIN OF MAN. [Read before the College of Physicians and Surgeons of Wilmington, N. C., July 24th, 1871, by the President, J. FRANCIS KING, M. D., and directed by that Body to be forwarded to the Secretary of the State Medical Society at its next Annual Meeting.]

April 16th, 1871, I was requested by Dr. Winants, Physician in Charge of the City Hospital, to see in consultation with him a patient, admitted April 7th, who was found at the railroad dépôt in a most critical condition, and whose left leg had been amputated at the lower third, at Marion, S. C., some days previous. When found he was weak, emaciated, and suffering from gangrene and mortification, the leg swollen to the size of twenty-eight inches, with copious offensive discharge, and every

part of the stump filled with maggots. Dr. Winants immediately commenced treatment by injecting chloroform and whiskey in the wound, and dressing with flaxseed poultices, gave internally stimulants and nourishment; but his efforts failed to arrest the progress of the disease, and the patient continued to sink, presenting symptoms of tetanus. On the morning of the 17th, opisthotonos was fully developed. Then determined to try stimulant treatment, injected and washed the wound with whiskey, and gave internally about three ounces of the commonest article every half hour, until alcoholism was produced, which required about six hours; when forty ounces of the whiskey had been given, the effect was produced; the spasmodic action began to give way, and in about twelve hours the patient was free from spasm, sleeping quietly, heat of body much increased, 105°F., and every muscle thoroughly relaxed. When aroused, he would take norishment, or whatever was offered, but laid in an apparently insensible condition. Remained in this state for twenty-four hours, when he awoke free from suffering, and expressed himself much better and hungry.

Examined his condition, and found tongue very red, pulse 120, feeble; temperature 100°. Much tenderness over the epigastric region, bowels constipated, having perfect control of mouth and extremities, wound looking healthier, appropriate treatment was now had recourse to, and for some days he appeared to improve, till about May 15th, when the wound assumed a grayish leaden hue, with copious offensive discharge; patient continued to run down. May 25th, no hopes of recovery, we determined, upon consultation, to try "Transfusion." Dr. W. procured a lamb, and I prepared glass tubes and syringe, wherewith we might convey blood from the animal to the man. Next day, 27th, prepared to operate; patient in a moribund condition, offered no encouragement. Dr. Winants kindly offered the favor of the operation to me, and patient was removed to the operating room in an unconscious condition, cold, and nearly pulseless; placed the lamb on the table, held by assistants, and I dissected the carotid artery, tied, and divided,

then inserted the end of the tube and gave to an assistant, attached the tubes to each other, making a flexible joint with adhesive plaster. I then dissected the cephalic vein of left arm for about three inches, tied, and made a longitudinal incision in the vein, inserted the other extremity of tube in vein leading to the body, when the arterial blood from the lamb flowed freely, making pulsation plainly perceptible, patient's eye brightened, and soon complained of feeling of suffocation. The first words uttered for some time, immediately arrested the flow, and removed the tube; clot filled the tubes and rendered them useless. After waiting about five minutes, received the blood in a warm tin cup, and with syringe conveyed the blood to the vein, injecting slowly and carefully till six ounces more, by measurement in the syringe, were transfused. Ceased further operation; tied the carotid of the lamb, stitched up the wound, and gave him his liberty, which he fully appreciated; then compressed the vein and dressed the wound, placed the patient on his bed, dressed the stump, gave nourishment, etc. He said he felt much better and stronger, so to prove the fact, lifted with right leg his hips across the bed, immediately complained of nausea. The heat of the body much improved; pulse 70, strong; soon dropped to sleep, slept well during the night, and next morning, 28th, was much improved, breathing and pulse good, appetite and thirst greater, stump looked red and firmer than for many days past. Continued to improve for several days, when he began to complain of his stomach, and refused food; pulse became much reduced in volume, wound began to assume the leaden hue, and increase in discharge; notwithstanding every care and treatment he daily declined. On the fourteenth day after the operation we thought to transfuse again, but failed to get either human or animal in time, and on the 15th, after the operation, the patient expired.—*Ibid.*

ART. VI. — THE CORRUPTION OF MEDICAL COLLEGES. By STEPHEN ROGERS, M. D., President of the New York Medico-Legal Society, etc.

Having heard from various sources that many of the Medical Profession are laboring under the delusion that certain charges I have made, in a general way, relative to the graduation of persons of criminal practices by medical colleges, are not sustained as respects the University of New York Medical Department, I regard it a duty to the Profession, to the public, and to myself, to send you for publication a few observations upon the history of these charges.

To say nothing about other reasons for sending these observations to the "Medical and Surgical Reporter," I may state that you are supposed to be perfectly free from any New York College or local New York influence.

Concisely, then, I have charged that the New York University Medical Department has degraded the Profession by graduating persons who, at the time of graduation, or before that time, were, or had been, criminal advertisers, and that the Faculty knew at the time of graduation that at least one such graduate had such a history, and that the only means the Faculty had, in any of those cases, of knowing that the graduate was not, at the time of graduation, in the daily practice of crime, was the statement of the criminal himself. *These charges have been both proved and confessed.* (See "New York Medical Record," March 15, 1872, p. 70; June 15, 1872, p. 247.)

I also charged that in one case said College graduated a perjurer. This charge has not been investigated.

I again charged the College with the practice of selling diplomas to persons of whose qualifications to practice the Faculty had no kind of knowledge, or means of knowing. ("Medical Record," April 15, 1872, p. 117.)

That said College admits such practice is manifest by the following copy of a paragraph taken from a letter of the secretary of the Faculty to Dr. J. W. McC.:

"Sir,—You can, by forwarding your diploma, or *other proper evidence of graduation*, and paying for one full course and graduation fee, $175, get the *ad eundem* degree.

"I have sent you a circular, and shall be glad to hear from you again. Very truly,

——— ———,

"Secretary."

Let the Profession decide if the charges be true.

Thinking the matter of sufficiently serious import to require that measure, and one which would properly come within the professed scope of the objects of the New York Academy of Medicine, I recently preferred a formal charge against one of that Faculty (who is also a Fellow of the Academy) to the Academy.

As I am simply seeking to defend a principle, and not to expose individuals, I shall omit names in this relation of facts.

The following is the chief substance of the charge preferred in the Academy:

"I charge —— —— with having violated that part of the code of ethics of the A. M. Association which relates to the maintenance of the honor and dignity of the profession, in that he has recently signed a diploma issued from the Medical Department of the New York University to one —— ——, whom he knew to have been a criminal advertiser, and a person of generally disreputable character.

"Also, within a very few years of signing a diploma issued from the same College to one —— ——, who, for a long time before, and at the time of receiving said diploma, was according to the city directory, *a physician, resident in the city, in the street, and at the number, and had the same name and initials* of a daily criminal advertiser, and was, beyond question, the criminal advertiser himself.

"I still further charge him with equivocation and misrepresentation in the former case, in the interest of a confessed charlatan and malefactor, and in so far as he could by such means has conferred respectability upon and has encouraged and abetted crime."

These are the most material points in the charge which I made against this member of the Faculty of the University, and upon which the Ethical Committee of the Academy reported substantially as follows:

"Guilt would, under those circumstances, attach to the signer of a diploma only in case he alone knew of the character of the person. If all the Faculty knew of it and signed it, he would be exculpated, or at least, his act would be guiltless."

Query.—Is this medical profession logic?

The committee here fall into a totally groundless error by stating that I admitted that the whole Faculty of the College were quite as well informed in the matter of the character and history of this disreputable aspirant to their honors as was the member against whom I made the charges. I never admitted anything of the kind, for I did not know anything of the kind.

It was for that very reason I could not and did not bring charges against every member of that Faculty who at the same time is a Fellow of the Academy. I only knew that the member of the Faculty whom I charged was acquainted with the facts, for the reason that I had informed him.

He had, indeed, stated to me that the information had been communicated to another member of the Faculty, but up to the time of the ventilation of the affair in the "Medical Journal," this was the only means of knowing that any other member of the Faculty than himself knew anything about the character of the pupil at the time of graduation. And even the "Journal" statements gave me, as I thought, and still think, too little reason for accepting that statement as sufficiently reliable for the basis of a charge. I shall probably never regard any statement of that member of the Faculty as *knowledge*.

The committee, however, have accepted his statements and the "Medical Journal" publications as *knowledge*, and very soundly concluded that all the Faculty who knowingly signed the diploma of a person of such repute are equally responsible before the public, though queerly enough, as we have seen, they

do not think that any single one of the Faculty has any individual responsibility in the matter.

Upon that principle, a member of a society of thieves could only be found guilty and punished in company with the whole gang.

While, therefore, the committee "are," as they say, "very decidedly of the opinion that acts of a medical college by which improper persons become entitled to share in the rights and honors of the Medical Profession are legitimate objects for the consideration and action of the Academy of Medicine, and that for such acts the professors of medical colleges who are Fellows of the Academy become amenable to the Academy," they decline to advise the Academy to undertake action in the case of my charge against a single member of the Faculty, alleging as a reason for their action, besides the extraordinary sophistry above given, "a scrupulous observance of the rules laid down in the 14th (meaning no doubt the 12th) by-law of the Academy."

That the Profession may know all there is in said by-law touching the matter, I here quote the section entire:

"§ 3. It shall be deemed a chargeable offence to countenance, encourage, or patronize, by advertising, giving certificates, or in any other way whatever, an irregular practitioner, or the proprietor or vendor of any nostrum, patent or quack medicine; *or to commit any act which unfavorably affects the character of the Medical Profession.*"

I leave the Profession to decide if the daily association, as one physician associates with another, with persons notorious as being or having been criminal advertisers, and signing their diplomas knowing this fact, thus elevating them to the same level with students and physicians whose histories have been those of unblemished honor and virtue, are not acts which unfavorably affect the character of the Medical Profession.

Finally, this translucent report winds up this part of the matter, in substance, as follows:

"The action of the Academy on these charges against a sin-

gle member of the Faculty would lead to one of two results: either to make this a test case, with the prospect of having possibly as many separate charges brought forward as there were participants in the questionable acts, or the Academy would make itself the instrument for singling out one of its Fellows as responsible for an act participated in by several Fellows and to equal extent.

"In either case, the principle of impartial justice which should guide the Academy in all its dealings would not be upheld."

The tender-hearted committee thereupon collapsed; and thus stands the renowned New York Academy of Medicine in this medico-criminal controversy. The Profession will form its judgment as to the relations, thus far shown, between the Academy and the broad subject of professional morals and standing involved in this issue. By way of interlude in this history of facts, it is both proper and important, as it shows the malignant animus with which this College has pursued its shameful practices, that the Profession be informed that the moment I became convinced that the presiding officer of the New York Pathological Society had, with full knowledge of the history of one of these advertising criminals, signed his diploma, I resigned my membership in that Society, for the reason that I was unwilling to sit in an assemblage presided over by a person whom I regarded as an abettor of crime. Incensed at this expression of determination to spurn his society, and that of his co-abettors, some of his friends and accomplices in the doings of the University, finally, after sundry infamies which I will not here mention, voted to expel mé, instead of accepting my resignation. "A rose by any other name smells as sweetly." Though the proceedings on the part of this disreputable clique of the Society were illegal, and practiced on frivolous pretences, I am thankful to be out of such company, whether it be called resigned or expelled. I am guiltless. Anything but crime. I never have and never will, knowingly, compound with crime. If a thief steals my watch, he can never pay me not to appear

against him. If a man has practiced crime, he can never buy me to treat him as an honorable equal, and any member of a faculty of a medical college who will do so, is, in my opinion, an abettor of crime. Such I regard the members of the Faculty of the University who attempted to defend their act of signing the diploma in question.

I would no more associate with them on terms of professional respect than I would with the holder of that diploma. Medical colleges are not chartered as reformatories, and have no business with repentance for sins committed, and I hope and believe that the Profession will treat all such colleges as assume that function with the contempt they merit.—*Med. and Surg. Reporter.*

NOTE.—Dr. Rogers should take a double comfort: First, in regard to Society action. As imbecile and cowardly as was the action of the New York Academy of Medicine in regard to his charges, he will find that Body brave and decisive, when compared with the Kentucky State Medical Association at its last meeting; for, when charges were preferred against Dr. D. W. Yandell, a member of that Body, and a resident of this city, for the commission of acts disgraceful to a man, an officer, and a physician, that Body actually repudiated its constitution to evade the responsibility of his trial; the culprit and his family voting to avoid (rather than voting to secure) this honorable test. Secondly, Dr. Rogers can take comfort in the fact that the Medical Department of the University of New York is not more reckless than is the Medical Department of the University of Louisville in bestowing its diploma upon those whose conduct destroys the respect and confidence of honest men. The Medical Department of the University of New York bestowed its degree upon an advertising abortionist, the fact being well established before and after the act; the diploma never having been canceled. The Medical Department of the University of Louisville bestowed its diploma upon Mr. Jacob Geiger, of St. Joseph, Mo., recklessly and in violation of its own published laws; and when it is responsibly published that both the giver and receiver of this degree have perpetrated a fraud upon the Profession, the degree has not yet been publicly revoked. "History repeats itself," and sometimes at very short intervals. Dr. Rogers should remember this and be comforted.—E. S. G.

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

Pleuritic Effusions Treated by Drainage.—In "La France Medicale," 6th July, there are several cases mentioned where the drainage of Dr. Cazenave has been successfully employed. In one case (Observation IX) a patient entered the St. Louis Hospital in May, 1864, under Dr. Cazenave, with double pleurisy. There was persistent effusion on the left side, with imminent asphyxia; thoracentesis was employed, and a quantity of pus withdrawn. There was persistence of the symptoms until August, 1865. In September, 1865, a new puncture was made, giving issue to much pus. In about fifteen days afterwards a fistula appeared at the opening of the puncture, with diarrhœa and sweating, and there were fever and nocturnal exacerbation. Drainage tubes were then used. The diarrhœa, sweats, and fever disappeared, the health was better, and the appetite returned. The patient kept the tube in all winter—*i. e.*, about seven months, and at the end of February, 1866, no more pus issued from the chest. This patient was examined anew with particular care by Dr. Ranvier. This patient was treated by drainage also, in the service of Professor Gosselin, who sent him to Vincennes almost cured and so much better that, after wearing drainage tubes for more than seven months, he was found to be quite well. "This observation," says Dr. Manny, "proves the cessation of hectic symptoms whenever pus can flow continuously; the presence of such symptoms of putridity whenever the liquid sojourns for any length of time in the pleural cavity; the innocence of the drainage tube; the dilation of the lung which has been compressed for some time; and the marked disappearance of narrowing of the thoracic cavity."

In another case of left purulent effusion, a spontaneous opening took place in August, 1864, and several quarts of pus issued. The patient had fistulous openings on the chest walls

with interminable suppuration and gradual emaciation. Up to 25th August, 1866, there were constant symptoms resulting from retention of pus in the cavity, loss of appetite, vomiting, and disturbed respiration. The patient was forced to sleep in a sitting posture, had diarrhœa and fever, with shivering fits. M. Gosselin, on the 10th September, introduced a draining tube by means of a curved trocar, and a large quantity of pus came away. In November, 1866, the patient was getting better and better. There was scarcely any suppuration, there was return of vesicular breathing, and the lung was dilating.—*The Doctor.*

India-Rubber Cloth in Diseases of the Skin.—Since 1868 ("Jour. de Med. et de Chir. Practiques), M. Hardy, of Paris, has been employing india-rubber cloth in place of poultices or local baths. He employs pieces of cotton, covered with a layer of caoutchouc, and forming an impermeable tissue. This is only applicable to the extremities and to the head; and for the latter region he makes use of vulcanized india-rubber caps. After a certain time the part enveloped becomes not disagreeably warm, and then an abundant sweating takes place, under the influence of which the crusts, and the squamæ which cover the skin are removed, the epidermis spreads over the ulcers, and the skin becomes softened. The results obtained are similar to those obtained by poultices, but preferable for many reasons. Daily experience of the Hospital St. Louis shows a great rapidity in the modification of the skin; two or three days of application suffice completely to cleanse the scalp when covered with abundant scales of eczema, etc. After forty-eight hours' application of the india-rubber cloth upon hands attacked with chronic eczema, with fissures and cracks in all directions, the wound becomes cicatrized, and the skin recovers its suppleness. This treatment is especially of great value in eczema in the second period of the disease. The crusts are removed, the plastic secretions disappear, and a thin epidermis, glistening and smooth, gradually covers the diseased part, and the eczema rapidly enters the third period. Itching is rarely relieved by this

method. In ecthyma the pustules open, and the cure proceeds very quickly, thanks to the envelope. It must be noticed that the cloth must be covered with india-rubber, for the trial made with oiled silk did not succeed. The limbs should be completely enveloped; but the india-rubber cloth ought only to be tied on at the ends—between the ligatures it should form a large sleeve. It should be kept on for a considerable time, and the patient should lie in bed. This method is also employed to the scales of the psoriasis fall, or to restore the suppleness to the skin in chronic lichen.—*The Doctor.*

Neuralgia and Sciatica Cured by Turpentine.—Turpentine Pearls.—Dr. Martinet, in a memoir presented by him to the Faculty of Medicine ("L'Union Medicale," June 20, 1872), affirms that he has cured fifty-eight cases of neuralgia and sciatica out of seventy by the use of essence of turpentine.

The great efficacy of this agent is not to be doubted in the above-named affections; and what is remarkable, the benefit is almost always felt from the first doses. But this medicine has such a disagreeable odor, such a harsh and pungent taste, that it is quite impossible to take it pure. Dr. Clertan has contrived to enclose it in very thin and transparent gelatine, in the form of little globules of the size of peas, to which he has given the name of turpentine pearls. Dr. Clertan's "turpentine pearls" are as readily swallowed in a little water as pills. This agreeable form has made the essence of turpentine quite popular; and now there is not a physician (so says the announcement?) in France who does not resort to turpentine pearls in the treatment of neuralgia and sciatica. Trousseau always prescribed turpentine in this form.

Treatment of Diarrhœa and Intestinal Hæmorrhage of Typhoid Fever.—In a clinical lecture, published in the "Lancet," June 29th, Sir William Gull says, *inter alia:* Medicines are only required for special conditions; for instance, if diarrhœa occur, some would give what is called "chalk mixture;" but we must remember that this has to go through about twenty-five feet of intestine. The best thing is to fill the rectum with five or six

ounces of starch; it is not even necessary to put any opium with the starch. The diarrhœa only takes place when the rectum, sigmoid flexure, or descending colon is affected or irritated by acrid matters; hence, if you fill these the contact of noxious matters is prevented, and diarrhœa is checked. Time would not allow of more being said on this. If the hæmorrhage occur, many would give gallic acid, or tannic acid, or lead, or some powerful astringent. But do not so; "do not begin with all your great guns at once." It is best to trust to the hæmorrhage to cure itself, which it will do, and keep the patient at rest in the horizontal posture, giving a little opium (half a grain) by rectum or mouth if necessary to quiet the intestines. Ice may also be applied to the abdomen. This is sound advice, although it may appear terrible. The objection to giving lead or gallic acid or other powerful astringents is, that they are apt to make the patient sick, and in that manner perhaps make the hæmorrhage worse.

The Employment of Caustics in the Amputation of Limbs.—M. le Dr. Aubert describes ("L'Abeille Médicale, June 17th; from "Le Lyon Médical") a method of amputating limbs and of removing tumors by the use of caustics. He uses for this purpose a leaden pipe seven millimetres in diameter, from which he removes a portion of the circumference, so as to transform it into a trough. It is then filled with caustic, and accurately adapted to the periphery of the tumor or to that of the limb to be removed. In some cases these pipes may be passed into the tissues themselves, after the manner of the drainage-tubes of Chassaignac, and in this way the constriction of the tumor or of the limb may be made more complete. The caustic which Dr. A. prefers is the pâte de Canquoin.

A New Method of Feeding Patients with Wound of Throat. Mr. I. B. Scriven, having a patient who had received a wound opening the pharynx and separating hyoid bone and thyroid cartilages, performed tracheotomy below the original wound, and inserted an elastic catheter into the œsophagus through the latter. The patient soon discovered that on putting the

open end of this tube into any liquid, the latter was rapidly drawn into the stomach without any voluntary effort of her own. In this way, while calmly breathing through the tracheal tube, she would drink up a pint of soup, at first in ten minutes, afterwards in three.—*Indian Medical Gazette.*

Eucalyptus—Its Medical Virtues.—David Wooster says ("Pacific Medical and Surgical Journal): "I have now used some gallons of this extract during a period of eight months in the United States Marine Hospital, and am surprised at its uniform and reliable effects in affections for which it is suitable. It is a diuretic of rare virtue, and may be administered when most of the diuretics now in common use are inadmissible. It is an aromatic tonic, and has notable restorative effects in low states of the system, as in typhoid fever, typhoid diarrhœa, and dysentery.

In vesical catarrh it alone cures. In spasmodic stricture it relieves with great promptness. In all affections of the mucous membranes its beneficial action is remarkable. I have treated many cases of acute gonorrhœa with no other remedy. In syphilis it is not useful. It is not antiperiodic. It is very useful externally in chronic ulcers.

Sure and Safe Method of Removing Foreign Bodies from the Ear.—The following method for removing foreign bodies from the external auditory meatus is suggested by Dr. Könenberg, of Paris ("Berdiner Klinische Wochenschrift," No. 9, iv. 10, 1872,) and is applicable in those cases in which the ordinary methods of extraction, by means of instruments and the syringe, have proved unavailing: It consists in smearing the presenting surface of the foreign body with some adhesive fluid, which speedily hardens, by the aid of which a sort of handle may be fastened to the body, which may then be readily withdrawn without causing any pressure upon the walls of the auditory canal. One of the best substances to be employed for this purpose is ordinary *glue*, which should be dissolved in cold water the day before the operation, and then thickened by means of

the water-bath immediately before being used. The glue is applied by means of a small brush, the head of the patient being allowed to rest upon a pillow. When the foreign body is well smeared, the end of the wooden brush-handle may be inserted into the auditory meatus, and placed in contact with the body. At the end of three-quarters of an hour a firm union generally takes place, and the offending substance can be easily extracted. It is essential that the surface of the body upon which the glue is smeared should be perfectly dry. If the surface is made moist by the existence of some discharge, it may possibly be kept dry during the operation by the introduction of a current of warm air. If it is found impossible to keep it dry, then some other substance must be used to cause adhesion; such, for instance, as plaster of Paris or cement, which are hardened by the mixture of water. The writer is of the opinion that this so-called adhesive method can be applied in cases where the foreign body has penetrated the tympanum, provided the opening at the point of perforation is sufficiently large to admit of the introduction of a slender splinter of wood, to which the adhesive mixture has been applied, and by the aid of which the foreign substance may be laid hold of and extracted. *Boston Med. and Surg. Jour.*

Treatment of Hæmorrhoids.—Hæmorrhoids, connected with prolapsus, were successfully operated upon by the application of nitric acid some thirty years ago by Dr. Houston, of Dublin. The method found great favor at the time, but has been somewhat displaced by the ligature, and the section followed by the actual cautery. Billroth, of Vienna, has of late revived Houston's operation, and reports excellent results, especially in those cases where frequent and dangerous hæmorrhage had occurred. *Lancet.*

Creosote in Epithelioma.—In the "Montpellier Médical" for February, 1872, Dr. Forné reports a case, which he believes to have been epithelioma of the lip, cured by free local use of pure creosote (carbolic acid?).

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

CLINICAL CASES OF CEREBRO-SPINAL MENINGITIS. By J. A. LARRABEE, M. D., Louisville, Ky.

CASE I.

March 23d.—I was called this evening to see Freddie W., a bright, active boy, aged three years and two months, of German parents. The mother stated that, about 2 o'clock, the night previous, he alarmed her by acting strangely. He became conscious after awhile, and complained of feeling sick. As he had acted similar once or twice before, and was "all right" next day, she felt no anxiety about him until this evening. I found him with very hot skin, pulse 125 per minute, anxious expression, with jactitation of limbs, persistent vomiting of everything taken into the stomach, and constant retching when the stomach was empty; the eyes were also in constant motion, the lids widely open. Physical examination of chest showed slight dullness, with bronchial respiration over middle lobe of right lung; the condition of the other lung, so far as any physical signs of pneumonia were concerned, was good; the most distressing symptom was the persistent vomiting. Ordered tinct. creosote to be given until vomiting was controlled, and sinapism to be applied over stomach, also pediluvia containing mustard, and gr. ss. calomel every second hour until bowels were moved (the mother had given two doses of oil, without effect, before I saw him), after the action of which, if the vomiting was sufficiently controlled, to have a teaspoonful every hour of a mixture containing spirits esth. nitrosi, potassæ acetate and mindererus, with a little camphor water.

March 24th, 9 A. M.—Passed a restless and uncomfortable night; bowels had been moved; vomiting only partially controlled; consequently the mindererus mixture was only given irregularly; does not vomit while lying; if the head is raised at all vomiting commences; both pupils contracted, as if by opium;

do not dilate when the light is withdrawn; puts his hand constantly to his head and in his mouth, and appears to be entirely unconscious; same fretful restlessness as yesterday; eyes were so rolled upward in the night that the mother thought he was dying; skin very hot; the mother says immediately after the bath there was slight perspiration; breathing hurried, pulse 130. Not having my thermometer with me, was unable to take his temperature; the mother thinks his skin and hands were cool in the morning; vomits everything swallowed; physical signs confined to same region; very little if any cough, except accompanying efforts to vomit; the limited pneumonia not being sufficient to account for the anxious expression and nervous manifestation, I considered the symptoms which this morning present to be very grave and due to cerebral complication, most probably meningeal, and requested consultation, and added quinine to the treatment. Dr. Gaillard met me in consultation at 3:30 P. M. His condition at this time was much the same as at my morning visit, except a slight increase in area of dullness and a gradual extension of the pneumonitis over the base of lung. It was decided to keep up the quinine and mindererus mixture per rectum, using egg-nogg as a vehicle, and to give by stomach 1-192 grs. sulph. atropia every two hours. I found temperature in axilla to be 105, pulse 136, and respiration 50 per minute. At 10 P. M. there was present every evidence of the peculiar effect of belladonna—redness of skin, dryness of mouth and fauces, with dilatation of pupils; temperature 103½, pulse 148, and respiration 52 per minute. Ordered atropine in same dose at four-hour intervals.

March 25th, 9 *A. M.*—Pupils considerably dilated, mouth extremely dry, tongue constantly thrown out for water, which he drinks greedily, and occasionally vomits. Intellect seems to be a little clearer; when questioned makes an attempt to reply in a fretful manner; pneumonic signs better; returning crepitation at base; temperature 102, pulse 38, and respiration 48; retains the atropia, but vomits the water when taken in large quantities. Ordered to continue atropia, and give egg-nogg, with

quinine, per rectum, which is well retained. Six P. M., temperature 104, pulse 130, and respiration 52 per minute; in other respects much the same. His words, if he says anything, are incoherent; discontinue atropia; has not slept a moment. Ordered bromide of potassium, with opium, for sleep.

March 26th, 9 *A. M.*—Condition in no way improved; has had no good sleep; the right lung is again beginning to do duty; temperature 103½, pulse 144, and respiration 48. To have no medicine by mouth, but ordered quinine, turpentine, and carb. ammonia, with 1-32 grain morphia per rectum, every four hours. At 7 P. M., found the house closed, and was informed that he was dying. I found him sleeping with fair pulse, less frequent respiration, extremities cool, but not cold. After allaying the fears of the friends as to any imminent danger, they consented to give another injection if he became restless again. There seems to be an inability or want of inclination to move the left leg.

March 27th.—Slept well most of the night; tongue not so dry; no sordes; temperature 102, pulse 120, and respiration 44 per minute; the left knee is swollen, hot, and tender; directed to be painted with iodine; abdomen much distended and tympanitic. Ordered turpentine stupes constantly applied; the bowels to be moved by simple enema; to have beef tea often by mouth; also alternate dose of quinine and acetate potassæ; does not vomit. Seven P. M., intellect not so clear; has had large stool from enema; abdomen less distended; knee still swollen, painful, and feverish; does not appear so well as in the morning; tongue again parched and lips dry; owing to almost ceaseless movements could not take temperature. Continue the same as above, adding a few drops of turpentine, to be given often on sugar during night, with beef tea, to which a dose of morphine may be added if restless.

March 28th.—This morning, upon entering the room, it was evident that a remarkable change had taken place within the last twelve hours; he was perfectly conscious, had slept without use of morphia. Early in the morning the mother noticed

a coldness about the extremities, thought it mostly due to his persisting in being uncovered, the hands and feet were quite cool compared with the previous fever heat, but were not cold; pulse 25, temperature 101½, respiration 40; takes beef tea well, and retains it. Fearing the occurrence of a fatal chill, two grains of quinine were ordered to be given every hour, beef tea and a little brandy at suitable intervals. If the bowels become distended and there should be no stool, to have again simple enema. The knee is considerably swollen, and appears to annoy him very much; paint with strong concentrated tincture of iodine; urine very red and strong; discontinue turpentine internally, but still use the stupes. Six P. M., has rested tolerably quiet all day, taking all the nourishment ordered and retaining it, as also the medicine. The enema which the mother found necessary to administer this afternoon brought a large, brownish and offensive stool, containing fæcal matter and a few clots of blood; it also contained a singular entozoa in considerable number, and, as the mother thought they were a "curious worm" and different from those more commonly passed by children, she had saved them for me. They are undoubtedly the tricocephalus of the authorities, and are from a half to one inch in entire length, of this the hair-like extremity forms about two-thirds; the body is plump, and ends in a rounded extremity. The hair-like extremity contains the head and antillæ, the intestinal tube can be easily traced through the narrow neck and larger portion.

March 29th.—Passed a good night by aid of morphia to procure sleep, and appears to be somewhat refreshed and conscious; respiration 32, pulse 18, temperature 103. Ordered beef tea, with quinine, to be continued; increase the nourishment.

March 30th.—Temperature still 103, pulse 108, respiration 24; exhausted and weak; tries to talk, but is incoherent. Carb. ammonia, with quinine and beef tea.

March 31st.—Rested well, and awoke clear as to expression; cannot articulate his words well; complains when pressure is made over cerebral vertebræ; body covered with herpetic vesicles, eruption and sudamina.

April 5th.—Tongue appears moist, with aphthæ upon surface and edges; temperature 104, pulse 120, respiration 28; left foot still swollen, eye looks better, pupils dilated; takes champagne and ice eagerly; talks thickly, chewing his words so as not to be understood; seemed pleased with my pocket-knife.

April 6th.—About the same; the eye is better; noticed a spasmodic twitching of single muscles of face and arms. Continued same treatment, with additions of chloral hydrate if spasms occur.

April 21st.—During the interval between these dates he has had again acute hydrocephalic symptoms, screaming, etc., followed by paralytic symptoms upon right side, the left being entirely relieved. For six days past he has been almost completely motionless, has uttered no cry and made no attempt to talk. At one time he was unable to swallow any nourishment, which has always been of a liquid character; but during the past three days he has taken egg-nogg and milk quite well when placed in his mouth, but manifests no desire for anything, swallowing it mechanically when so placed. He does not yet articulate a sound, except when his head is raised from the pillow, the back of his neck touched, or he is turned in bed; at such times he makes a faint noise, and his face bears an expression of pain. Treatment has consisted chiefly of nourishment and quinia sulph. and strychnia by mouth when he could swallow, and by injection when he could not. To-day ordered blister to back of neck and superior spine. The blister drew promptly and filled well.

April 23d.—Takes nourishment well, and smiled rationally at his grandma this morning; right eye is unsteady and rolls about in socket. Ordered blister behind left ear; continued quinia and egg-nogg.

April 30th.—Notwithstanding the marked emaciation of the trunk and lower extremities, the sunken belly, the herpetic vesicles which cover the skin, his appearance and apparent comfort during the last few days had given to his loving parents renewed hope, and inspired new courage. Last night irregular

spasms began; at first consisting in slight trembling of upper extremities, the hands, arms, and face being only affected. During the night spots appeared over face, arms, and trunk; some red, others of livid hue; varying from the size of a pea to a nickle. He was unable to make the slightest movement with the right leg, which was stiff and rigid; could not be bent or moved. At the time of my visit this morning he had several tremulous convulsions in my presence. The eyes were little affected, and he would open and shut them quite naturally while in a terrible convulsion. I raised his head and gave him water during the spasm, which was swallowed without difficulty. The convulsive movements were followed by an interval, more or less perfect, of repose, but no sleep. Ordered hydrate of chloral to be given, and gave chloroform by inhalation during the fit. To have champagne and ice at short intervals, as he has taken no nourishment since yesterday.

May 1st.—Lying quiet; swallows nourishment; the chloral had a very pleasant and satisfactory effect. Ordered calomel, with sugar, in small doses until bowels were relieved.

May 2d.—Had slight return of trismus last night, but is now easy. Drank milk, opening his eyes naturally while drinking, apparently conscious of the act. His mother thinks he likes the wine, as he always drinks it greedily. Has uttered no cry nor word.

May 3d.—Rested well all night, and looks better. The treatment consists in giving small doses of calomel and rubbing the body with cod-liver oil, and giving nourishment as freely as he will take it.

May 4th.—Not so well to-day; had a return of trembling last night, but no convulsion; bowels moved once yesterday, and the day before he ate, drank, and rested so well as to delight his anxious parents. To-day the right pupil is dilated so as to leave very little of the iris to be seen. Yesterday and day before it was smaller than it had been for some time. Has not given any signs of consciousness, but lies like a piece of marble statuary; the skin, for the most time of a marble white-

ness, becomes suddenly suffused with a pink color, which quickly passes away. Several times his breathing during the last few weeks has become so gentle and unobserved that he was thought by his friends to be dead. There is complete deafness and blindness.

May 15th.—This is the eighth week of the disease, and from the last record there has been little or no change in the symptoms. He does not stir in bed, nor change position of his own accord. To-day the right leg is stiff and motionless. A blister applied over the occiput and back of neck drew well, and was filled with gelatinous matter. Does not swallow as well as a week ago; he, however, gets down and digests beef juice and milk. The pupil of right eye is dilated; an examination of the retina by the ophthalmoscope showed that it was of a deep red color, and the vessels turgid; the left pupil is fixed and too opaque by lymph to be examined. He did not appear sensitive to the strong light, but a slight contraction of the pupil was noticed. The emaciation of the trunk and extremities is frightful; the face does not show much emaciation.

May 19th.—Has been sick eight weeks to-day, and is much the same. Ordered scalp to be shaved and ointment of tartar emetic to be rubbed in well until pustulation follows.

May 30th, or 10th week of illness and 70th day after Commencement of Treatment.—During the past week there has been more marked rigidity of muscle, the legs and arms as stiff and immovable as marble; trembling spells become more frequent, and always accompanied by an effort to move. During these spells the face becomes quickly tinted, and then crimson, afterwards deadly palor succeeds. The emaciation is frightful; his face, which until now has not participated much in the emaciation, is now almost melting away. Although there is no pinched expression or mark of pain upon his countenance, as he lies unconscious and motionless and scrupulously neat in his snowy garments, is not unpleasant to look upon. The eruption upon the scalp discharges some matter; a blister has been since applied. To-day his mother gave him a strawberry;

he ate it quickly and held open his mouth; a piece of bread was given him, and he spat it out; more strawberries were given and eaten by him. This is the first taste and distaste he has shown. Ordered him to have dilute phosphoric acid with syrup strawberries or raspberries for drink; also hypophosphates with three drops tincture calabar bean three times a day.

May 31*st.*—Pupils contracted to one-half size of yesterday; relaxation of limbs; even the fingers, which have been tightly clenched for weeks, are free; vomited considerably this morning. Continued ibid.

June 8*th.*—Eleventh week of the disease; skin covered with dark-brown epidermis, although keeps scrupulously neat; forearm flexed upon the arm so tightly that ulceration of contiguous surfaces occurs. The hand of the same (the right) is fixed at the chin so tightly that it cannot be changed; the toes of the opposite side are also flexed; fingers of both hands so clenched that the nails threaten to go deeply into the palms; the neck is less rigid; eats well all he can get; sleeps well, and is regular in defæcation and urination.

June 15*th.*—Twelfth week; no important change.

June 22*d.*—Thirteenth week; same; broke out all over with heat; perspiration mostly on face and head, which is profuse; is evidently much annoyed by the heat and flies.

June 29*th.*—Fourteenth week; slight diarrhœa; same muscles contracted until their tendons stand out upon the thin wasted limbs like strings; right arm and shoulder badly swollen, owing to approximation of the forearm. Mrs. Wursch thinks he sees a little, which she judges from his mouth before food has touched it. I am convinced that he neither hears, sees, nor is sensible to objects around him, although he is sensible to pain at times. Eats well, even hastily of most nutritive food, such as eggs, whey, sponge-cake, etc., and appears to like certain things, rejecting others as soon as they are put into his mouth, but makes no sign of disgust at what he dislikes until it is in his mouth..

July 6*th, or* 15*th Week.*—Remains same.

July 13th, or 16th Week.—Same, but more fretful from heat.

July 16th.—Died this morning at 2 o'clock. Before he died he became opisthotonic; his back was a perfect arc, and his limbs were convulsed; the rigidity of certain muscles and sets of muscles was the same in twelve hours after death as during life. No post-mortem.

CASE II.

Mr. S. C., a miller, highly esteemed for his mechanical skill, but generally regarded as an intemperate man, had exposed himself considerably of late, and was taken ill, and sent for me to visit him April 26th, about noon. He had severe headache, with pain in neck and limbs the day previous, and sent his daughter to me for a prescription to stop his headache; thought he had chills. I wrote an office recipe for mass hydrarg with quinine, and cold lotion to head. Not being relieved, on the 26th he sent for me to visit him. I found him with terrible thirst, high fever, tremulous hands and voice, evidently conscious, but exceedingly irritable, complaining of the back of his neck; pupils were contracted almost to a point; bowels had not been moved by the pill hydrarg. Ordered calomel to purge, sinapisms from Lexington mustard to be placed and retained over spine, whole length epigastrium and extremities, to be followed by quinine, stimulants, and nourishment.

April 28th and 29th.—Had stool; nurse informed me that he was at times very violent during the night. At the time of my visit he was talking incoherently; had a small and weak pulse; appeared to be feeding himself with his hands; resisting all attempts to keep him quiet, he would get out of bed, then allow himself to be put back in a weak and helpless condition, again to repeat the same over and over again; would take no medicine; pupils beginning to dilate; his body covered with perspiration. Ordered egg-nogg and quinine.

April 30th.—During the night the pupils became widely dilated, and he became stupid, then comatose; moist rales all over the chest; he sank rapidly, and died at 10 A. M. A

slight eruption appeared about the mouth and nose on the second day.

CASE III.

Maggie Gagan, Irish girl, aged thirteen years, had been living out and doing work as servant girl until last Saturday, April 20th, when she complained of great pain in head and limbs, and chilliness. On Thursday, previous to her illness, she had competed with some children in jumping ropes; had reached one hundred and fifty jumps without intermission, and being completely exhausted, she bathed her head in cold water, and drank of the same freely. She is of a scrofulous nature, having suffered from hip-joint disease in early childhood, causing suppuration; and the limb, although the openings are closed for some time, is wasted and shortened. I was called to see her Sunday, April 21st. She had vomited frequently, and complained of intense pain in head and back of neck. In fact, the noticeable symptoms presented were cephalalgia, rachialgia, and vomiting, all of which were severe. She had taken two Seidlitz powders and three cathartic pills the evening previous without effect. She retained the dorsal position in bed, and the head was observed to be buried backward into the pillow; although no marked opisthotonos, has characteristic eruption. Temperature 105, pulse fast and small, counting 140 per minute. Ordered brisk purge of calomel, to be followed by quinine in full doses, with morphia combined; also sinapism to spinal column and over stomach, and pediluvia.

April 22d.—Bowels had been moved three times during the night, and the quinia and morphia had been given twice. She had appeared easier, although in sound sleep; had vomited again this morning, and answered questions very slowly; intellect not clear; temperature 105, pulse 135, little fuller. Continued quinine mixture every three hours.

April 23d.—Owing to a mistake of the druggist, she got fl. ex. taraxici instead of the elixir tarax. comp., as a vehicle for the quinia, which purged her severely, bringing away a large quantity of bilious matter and a round worm ten inches long;

was vomited; seemed to be rational; pulse 120, temperature 103; tongue dry, cracked, and sore. Ordered quinia with morphia every four hours, and mixture terebinthina alternated every two hours; ice, beef tea, etc.

April 24th.—Rested some in the night; is much worse this morning; complete opisthotonos; frequent spells of screaming; pulse rapid and feeble; temperature could not be taken; is evidently sinking. Ordered a dose of chloral hydrate to procure quiet condition; nourishment and quinia; tongue and lips covered with sordes; irregular spots may be seen upon abdomen; two spots upon the face have the appearance of echymosis.

April 25th—Morning.—No sleep last night; constantly tossing about in bed, occasionally screaming, and all the time delirious; blister, which was retained in position with great difficulty, filled well, but produced no relief; the head is so firmly fixed upon the back that it cannot be moved. Ordered egg-nogg, and continue other treatment, ice to head, etc.

Evening Visit.—Appears to be worse; low muttering delirium; pulse 150; restlessness of limbs; extremities warm; continued treatment, especially nourishment and tonic course.

April 26th.—Appears to be more quiet this morning; has slept some; opisthotonos marked; cannot lie on the back, as the top of the head would have to sustain the weight of the shoulders; an eruption of urticarian look has appeared and disappeared. Ordered increase of stimulants, with beef tea.

April 27th.—Appears to be rational, although hearing is rather dull.

May 4th.—During the past week there has been but little change in the condition of the patient, except emaciation; the pain continues in the head, and the rigidity of the neck also; is exceedingly feverish, but takes food and stimulants well; tongue and lips now clean; asked for her breakfast this morning, and ate with good appetite; the head is still drawn back, and the hands tremble considerably.

May 12th.—This is the end of the third week of treatment. She is still lying conscious, peevish, and fretful, with head

drawn backward; has become extremely emaciated; the sordes about the mouth and nose remain and bleed considerably; tongue perfectly clean; appetite good and even craving; digestion perfectly performed; stool each day; moves the right leg and arm with extreme difficulty. Ordered potassii iodidi in one-scruple doses three times a day with elixir cinchona.

May 26th.—This is the commencement of the sixth week of the disease. Tetanic spasm and opisthotonos have entirely disappeared; she takes food well; several times it has been necessary to give creosote mixture to control vomiting, after which the stomach and intestines seemed to perform their functions well for several days; the emaciation is great; abdomen sunken and flat; skin considerably discolored. Belladonna, ergot, and quinia ordered three times a day.

June 12th.—She has been sinking gradually, with an exacerbation of all symptoms since last record; vomiting at frequent intervals; screaming; opisthotonos returned; extreme emaciation and complete exhaustion, with coma at the last, from which she died at 2 o'clock, in the eighth week of the disease. No post-mortem could be had.

CASE IV.

April 15th.—I was summoned at an early hour this morning to visit a family, in my practice, living a mile or so from town. Within the past week I had prescribed for some members of the family for "chills." Upon my arrival at the house, I found that my patient, Freddie S., a bright boy of two and a half years, who had not suffered with "chills," had had a sort of convulsion, and learned the following history of the case: During the day previous he had complained some, but was about the house; not interested in play; that at night he suffered from pain in the head, and had vomited; considerable thirst, but could not retain water. When I saw him there was no convulsive movement; his pulse was very small and weak, and I could not count sufficiently accurate to note. His skin appeared to be burning about the face, but bowels were quite cool; his expression was

pinched, and he would scream violently when touched; pupils were contracted, and did not dilate when strong light was withdrawn. Gave him calomel to purge, to be followed by a dose of sulph. atropia combined with potassii bromidi every two hours until it had effect. Ordered flannels wrung out of hot mustard water to be wrapped around body and extremities, as also strong sinapisms to back, spine, and extremities.

April 16th.—Became more quiet and slept a little at night, but is always moving his hands as if to feed himself; talking wildly; at times unconscious; pupils dilated, mouth dry, pulse 125, fuller and stronger; impossible to get temperature, but skin feels hot; tongue dry and brown; countenance better. Ordered beef tea to be fed to him often; also, quintne to take place of atropine, and add a small dose of morphia if he was constantly picking without sleep. Irregular spots of an ecchymoid character have appeared on abdomen and hands and arms; good stool. This morning he looks better, and asks for water, but is unable to raise his head, which is curved backwards so that the occiput is resting upon the top of scapulæ, and it was necessary to give him the morphine three times before he could be quieted to sleep; had spells of trembling and screaming; lasted several minutes, but has been more quiet since the morphia. Is able to swallow a good quantity of liquid nourishment when placed to his mouth; the pupils are contracted more than normal; eruption scattered. Ordered continuation of quinine; also sponging of skin when hot and dry.

April 20th.—Dr. Brandeis saw the case with me this morning; at the time of our visit we found the pupils widely dilated and unchanged by light; this condition occurred while he was taking occasional doses of morphia and quinine; he was lying in an unconscious condition; pulse 125 per minute; abdomen tympanitic; skin rather cool and covered with perspiration. In consequence of tympanitis and dry, cracked tongue, the mixture terebinthian was added to the treatment, which was to be alternated with the other medicine and nourishment, beef tea, wine, soup, etc.

April 25th.—During the interval between these dates no change of importance has been made in the course of treatment. Tongue becoming moist, the turpentine has been discontinued; the intellect has become perfectly clear, although not inclined to say much; has manifested pleasure at some toys, and answers his father and mother intelligibly; is exceedingly irritable; at times does not want to be approached, and when left alone, spends most of the time in sleep; had fever last night, which has lasted up to present time; pupils are still widely dilated; and a very noticeable feature is the tremulousness of his hand, and his uncertain grasp of anything handed to him; the head is no longer drawn back, and the spots have entirely disappeared; seems to be very weak, notwithstanding he swallows his nourishment quite well. Ordered his drinks to be of water made slightly acid with acid. phosph. diluted, and to have quinia and sulphur combined with a small dose of strychnia three times a day.

April 26th.—He is perfectly conscious, and even playful; countenance bright and cheerful; no trembling; appears quite well, except the rapid wasting of tissues; discontinued the strychnia, so much better.

April 28th.—Passed a restless night; screaming again; trismus and opisthotonos; impossible to give either nourishment or medicine.

April 30th.—Appears to be a little brighter this morning, and is yet exceedingly irritable. Ordered iodide and brom. potassii three times a day, or whenever he could be made to take it; also wine, with good nourishment, at frequent intervals.

May 1st.—Is better this morning; a decided remission in all the symptoms, except those about the neck, stiffness, etc. Took nourishment and medicine.

May 3d.—Still takes the iodide and bromide in mixture; the remission and favorable symptoms continue, and this morning he was carried, at his request, for a few moments on the porch, to have the morning sun and air.

May 4th.—Improvement still continues.

May 12th.—Much less feverish; insists on going out of doors; cannot stand by himself, but supports his head well; opisthotonos entirely gone; he is extremely pale and emaciated; appetite and digestion excellent. Ordered wine of iron to replace the potass. mixture.

May 15th.—He has stood upon his feet to-day, and for several days has supported his head, and all stiffness above the neck is gone; his temperature is not increased at night; no paroxysms of fever; eats well; and the extreme pallor is giving place to a faint pink hue upon the lips and cheeks. I am happy to give to the parents and many anxious friends my belief in his convalescence.

June 1st.—Remains well, and offers to improve every day upon cod-liver oil and iron.

I have selected the four cases, which I have here given, out of a number which have come under my care and observation, as being best calculated to show this terrible and fatal disease in its different phases. Two cases occurring in early childhood, not reported, appeared to be more malignant, ran a more rapidly fatal course, terminating in death upon the fourth day. With this exception and that death occurred in these cases with œdema of the lungs, the symptoms were not different from those above noted. I will add, however, in regard to them, that they both occurred in the same family, ran the same course, and terminated upon the same day, and their death deprived an indulgent father, and fond, devoted and loving mother of their only children, beautiful and attractive beyond their age.

Let us recapitulate and condense some of the principal symptoms in these cases. In that of little Freddie W., which, on account of its lingering character, the slowly-increasing marasmus, with temporary improvement, forms a striking contrast to most of the cases coming under our observation. The initiatory symptoms (fever temperature), contracted pupil, jactitation, hyperæsthesia of the skin, with most persistent vomiting and constipation, although present in all the cases and

typical of the disease, were more decidedly marked in this; then followed an eruption irregular and recurrent upon different parts of the body, extreme irritability giving place to a comatose condition, with dilated pupils and loss of intelligence; then after lying for days in a perfectly helpless and almost hopeless condition, he brightens up, returns to consciousness of his surroundings, asks in a mumbling manner for water and food, his words being few and not easily understood; noticing and appearing to be pleased with toys, but the next moment vexed and fretful—an improvement only apparent. Just as convalescence seems to be established, the symptoms again grow bad; there is synovitis and œdema of left side, with ptosis of the left lid; extensive sclerotitis and keratitis of same eye; entire loss of vision, followed by complete deafness; again comes a slight remission for a short time, followed by more acute and hydrocephaloid symptoms, exacerbation of fever, tremor, trismus, short screams; able to swallow and relish champagne and and ice, also milk; then an advance of symptoms to right side, with a subsidence of those upon the left; right eye and lid similarly affected; jerking confined to right side; entire loss of speech and hearing; again remission, during which he gives evidence of hearing and seeing; the passage from the bowels of peculiar entozoa; the appearance of herpetic vesicles over body; sunken appearance of abdomen; complete marasmus; sudden seizure again with trismus and tetanic contraction of muscles in the sixth week, with rigidity of right leg and arm, lasting almost without intermission for twenty-four hours; its control by chloral; again quiet, and swallowing when liquid is placed in mouth, but entirely unconscious of surroundings; again constipation. The continuation of the case, with little change in the muscular rigidity for sixteen weeks, and finally death from exhaustion.

In regard to the peculiar entozoa, which I have never seen before, I am not aware that it has any special importance in the case, except its peculiar fitness to be named Tricocephalus. Its entire length is little more than half an inch, the hair-like

cephalic extremity being nearly as long as the body. When magnified to ten diameters, the hair-like extremity is seen to contain the head, the mouth opening underneath, surrounded by antennæ, and the intestinal track is plainly visible through the entire length of the body.

I am unable to find in the authorities any positive proof that its presence ever gives rise to disorder or disease. A similar worm has been found in Milan and Egypt to exist in great numbers in the abdomen, and they were believed to give rise to the Egyptian chlorosis by piercing the walls of the intestines and causing hæmorrhage. Helminthologists have classed it as *helminthes nèmatoides*. M. Barth, of Paris, has reported a case in which death took place with symptoms of meningitis, and after death no lesions were found within the head, but the intestines contained an immense quantity of these worms. It has not, however, been deemed of any practical importance in this country. Davaine says it is propagated by ova, which may be easily recognized in the dejections by aid of the microscope.

The case of Mr. C. presents a more malignant form of the disease, or perhaps better, the same cause operating upon a system weakened by habits of intemperance running a rapid course without any remission in the symptoms, and terminating in death with œdema of the lungs. Its occurrence in a man of middle age is also important, as by far the greater number of cases and the greater fatality of this disease is in children.

The case of little Freddie illustrates well the inauguration of favorable symptoms at a most unexpected period, also the sudden appearance of an eczematous eruption after the other had faded, and that of short duration. The irregular occurrence of fever and the gradually-increasing marasmus were well marked.

True convalescence was established in this case at the end of the fourth week, and he is now able to sit at the table and be carried out of doors. When compared with the rosy-cheeked boy he was before the attack, it is hardly pleasant to see his thin, pinched face and wasted limbs at present.

In the case of Maggie G., which was characterized from the start by the severity and malignant character of the symptoms, the tetanic opisthotonos was most marked; the head upon the third day was at a right angle with the body, rendering it impossible for her to rest or lie upon her back. In this case, after comatose symptoms and complete unconsciousness, with dilated pupil, we note a remission about the sixth day; the sordes which have accumulated upon tongue, lips, and nose, clean off; she replies correctly, although in listless manner, to questions loudly and plainly put to her; there is no great change in the pain and stiffness about the neck, and for days she remains in the same condition, except the emaciation, which becomes more and more apparent, although she takes wine and egg-nogg, with beef broth, freely and willingly.

That "cerebro-spinal meningitis" may take the epidemic form and prevail epidemically, there can be no doubt. Before the pathologist had shed light upon this disease, when it was only known alike to the doctor and patients by a single symptom, and named spotted fever, it prevailed epidemically in western towns and rural districts, and in many cases, like "atropos" in the dark, cut the thread of life, the cause of death, the theca not being opened, forever remained a mystery. We hear of it in distant and widely-separated districts, now here, now there, visiting places where it had never before prevailed. That the poison which thus exerts its influence and spends its force upon a vital part is malarial, there can be little doubt; but that the disease is infectious, as we understand infection, or is contagious, is by no means established, although it has taken several members from the same household in certain districts where it has prevailed; and there is every reason to believe that its proportion in the harvest of death has been large, it merely shows the changes and extension of malarial poison and miasmatic influences. I have to-day received a letter from Arkansas, in which I am informed of its prevalence and fatality in and around Little Rock. Our observation has been that it prevails at seasons of the year, and in localities which are

noted for the production of chills and fever, intermittents, etc.

In some cases, as we have seen, the disease has been preceded by slight headache, pain in the back, etc. In far the greater number of instances, however, the accession of symptoms is more rapid. There is a chill, more or less severe, followed immediately by pain in the head and back of the neck, with a pulse rarely over 100, and not much increase of temperature, as shown by the thermometer. The respiratory ratio is rapidly increased. The symptoms do not remain long stationary, and may be said never to be at a stand still. The head is next drawn backward, often forming a marked and striking symptom. The pulse and respiration become more frequent; the former often weak and thread-like. One symptom to which I would invite special attention is, the extreme restlessness and jactitation, with extreme irritability, the patient being keenly sensitive to touch, after which the consciousness is entirely lost and the skin becomes as insensitive as it was before excited. As we have already seen in the case of Maggie G., the head at this stage is drawn as tightly and firmly backward as to rest between the shoulders. In this stage, also, tetanic opisthotonos is accompanied by trismus. In some cases, as in the case of C., the disease passes through all these stages in two or three days, or even in less time, terminating in deep stupor and acute œdema of the lungs. The contracted pupil is a marked and early symptom, and was present in all of my cases. Its duration is variable. Pressure over the cervical vertebræ always has increased the pain. The eruption seen first around the mouth, afterwards on the trunk and extremities, has been noticed in most of these cases upon the second or third day, and as illustrated by the case given above, may reäppear during the progress of the disease. It is generally herpetic in character, accompanied by sudamina; but in several instances an urticarious eruption suddenly appeared and disappeared. In regard to the anatomical character, or pathological changes of this disease, the cases which have died under my care in private practice, have afforded no opportunity to increase my knowledge.

Some years ago, however, I made careful examination in some thirty or forty cases of death from epidemic cerebro-spinal meningitis which occurred among soldiers in barracks, and in all these cases enough was found to account for the symptoms manifested during the life of the patient. In other words, the manifestation of the disease outwardly, from first to last, could be the result of the local lesion found within the cranium and spinal cord after death. I remember to have seen the brain softened and broken down around the ventricles. Effusion or exudations were always found in the cavity of the arachnoid, which appeared to be purulent in character, and in many cases pure pus. In nearly all, as I now recollect and find upon the scattered memoranda, which I have, the cerebrum was affected, but the most marked effect was upon the base of the brain. The dura-mater of the spine was injected and put upon the stretch, and fluid was found between the arachnoid and pia-mater. The cases to which I refer were nearly all rapidly fatal.

I have had no opportunity to examine, after death, any of those in whom the disease was protracted. I have no doubt that an examination in such cases would be full of interest and profit to the Profession; and the products of the inflammation might be seen to account for the deafness, blindness, and loss of senses.

The cases of soldiers mentioned above occurred in a district dreaded for malaria, and at a season of long-continued rain with cold; and it is a matter worthy here of note, that most of the recorded epidemics of cerebro-spinal meningitis have been in the winter season. The late spring and inclemency of the season just passed, during which the cases forming the basis of these remarks occurred, must be familiar to the reader.

The convalescence of which mention has been made in some cases is not a true convalescence, but a sudden and unexpected inauguration of *favorable* symptoms, with a dragging out of the disease, the patient losing much of the frightful manifestations still remains irritable, the stiffness about the neck and pain in same region still continues. True convalescence in

epidemic cerebro-spinal meningitis is rare; and when it does occur, is most tedious.

In the case of little Freddie S., it was established some time after favorable symptoms had set in, and he is yet unable to walk by himself, and notwithstanding he has a voracious appetite, is emaciated and anæmic. The prognosis must still remain unfavorable while the stiffness, pain, and nightly exacerbations of fever continue.

As far as our observation has extended, we may safely say, that in epidemic cerebro-spinal meningitis the treatment, when we consider all cases, is extremely unsatisfactory. The rapid progress of the disease, the extreme restlessness of the patient, or the early appearance of coma in many cases, render it utterly impossible to give but few doses of medicine by the mouth, after which all attempts to introduce medicine into the system in this manner are useless, and any plan of treatment will give the same negative result. It is only then by careful observation in the more favorable cases that we are able to gain knowledge upon so important a subject. In the early history of this disease, when its pathology was little known, and even up to the present time, the antiphlogistic treatment has been most rigidly and thoroughly tried. Local and general blood-letting, with calomel, were the remedies at hand. The best evidence of the bad results of this treatment is its almost universal abandonment. Blood-letting, however, will still be resorted to by those who adhere to the old theory. We are inclined to agree with Prof. Bennet ("Blood-letting Controversy" of 1857 and 1858), when he says: "That neither general nor local blood-letting can possibly be supposed to diminish the amount of blood in internal parts affected by inflammation," unless the patient be bled to syncope, a course which we think few would wish to pursue in a patient already exhausted and unable to take nourishment. Were this to be done, we still fail to see how it can be instrumental in removing an exudation thrown out and coägulated around the blood vessels of the brain and spinal cord. The application of cups along the spine

and back of the neck may give some relief; but here, as in pleuritis and pneumonia, dry cups will afford the same relief as wet ones. Again, when we take into consideration the fact that we are more frequently called to attend a child suffering from meningeal inflammation after the first stage has passed and fatal stupor has already began, that the early symptoms, constipation, vomiting, jactitation, screams, have failed to attract serious attention on the part of the friends, and that not unfrequently the physician himself has not become established in his diagnosis, what can we expect from blood-letting at this time?

There are medicinal agents, however, which, from their known and demonstrated action upon the heart and capillaries, suggest themselves to our most careful consideration in meeting the indication erroneously sought from blood-letting. First among these, belladonna and ergot demand our attention. Dr. Brown-Séquard has shown that both of these agents act by producing contraction of the blood vessels, the former upon those of the brain, and the latter upon those of the spinal cord. The cases in which we have used belladonna have certainly shown its good effect. The use of belladonna in drying up the milk secretion is well known to all; this effect, together with the dryness of the throat and fauces, which appears during its administration, is no doubt due to its effect upon the capillaries.

Regarding this disease to have its cause in malarial or miasmatic poison, it is plain we should not lose sight of quinine in the treatment, although in our hands it has failed to break up the evening exacerbation of fever. Conium, on account of its sedative action, deserves a trial; the application of ice, blisters, and derivatives, are as applicable here as in other inflammation of the brain.

NOTE.—More recent experiments show that belladonna and ergot act not only upon the whole cerebro-spinal axis, but also upon the sympathetic system of nerves.—ED.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

PROCEEDINGS OF THE ACADEMY OF MEDICINE, PARIS: THE LIFE AND DEATH OF M. LOUIS. From the "Therapeutic and Medico-Chirurgical Review." Translated by Mrs. E. S. GAILLARD.

This body assembled on the 27th of August, 1872, in order to listen to the oration pronounced at the funeral of M. Louis by M. Barth, and now repeated by him at the request of the members of the Academy.

Gentlemen,—It was a beautiful and noble existence which has just passed away. With M. Louis contemporaneous medicine has bidden adieu to one of its most glorious representatives, and in him this Academy loses one of its most illustrious and best beloved members.

By a rare privilege Louis united in his person all that inspires attachment and commands respect. He was at once a learned scholar and the perfect model of a good man. His scientific works are universally known; it would be superfluous to recall them, and this is not the place to pronounce their eulogy. Let it be sufficient to say, that they are not only the product of the most ingenious conceptions, but the fruit of the most patient researches and exact observations. It therefore follows that if they have not the brilliancy of works of the imagination, they have the solidity, and the seal of truth, which will give them life when many other productions that are more brilliant will have fallen into complete oblivion.

That which shall give him a brighter title to glory than his writings ever can, is to have been the sole and the successful originator of a method of science which consists in holding as valueless any assertion without proof—in being suspicious of all hypothesis, and in considering those things only true which can be proved by a sufficient number of facts well observed and

carefully analyzed. An arduous though sure method, which alone could give to medicine that exactness which is necessary, and which keeps our science incessantly advancing in the line of progress.

It is due to this more than to all else that Louis will have in the history of our art an imperishable renown; and what justifies this appreciation, is that the method of which he was an ardent propagator has rapidly prospered, and that among the students who have arisen from the school of Louis, we find a crowd of distinguished men, who, on all parts of the globe, have risen to positions of the greatest elevation, and enjoy the most legitimate reputation. The venerable master had not only students, scholars, followers, but he had the rarer happiness of converting these into friends. This was because Louis had those qualities of heart and soul which one would hardly suppose to exist under an exterior somewhat cold and under austere aspects. Those who had penetrated his inner life, know that this reserve and this apparent coldness did but hide warm and tender affections. It was in these affections that Louis was cruelly wounded for the first time in the midst of his career, which was otherwise so happy. He had an only son, whom he loved passionately, and upon whom were concentrated all of his pleasure in the present and his aspirations for the future. This son, who already gave evidence of much genius, died at the age of eighteen. The blow was terrible, and Louis remained inconsolable; *noluit consolari*. His intense grief brought him to the verge of the grave, and if his strength had allowed, he would have passed his days at the tomb of his best beloved son.

This misfortune was irreparable, and very much modified the life of Louis. The oak had been profoundly shaken by the blow which had cut off the young branch. Little by little Louis gave up his practice, and retreated to the Hotel Dieu long before his age demanded it. During the whole of his career as practitioner and hospital physician, he had been a man *of duty*. The accomplishment of his duty was his rule, his pleasure, and

his dominant thought. Retired from active life, he remained a high-toned man, faithful to all of his affections. A friend was always sure to see him come at the first appeal to his bed of suffering; he was equally sure to find in Louis a counsellor and a support. In his retreat, Louis did not remain inactive. He occupied his mind with the study of every publication relating to the science which he had so fruitfully cultivated, and he refreshed his spirit by the consolation of good books. He had become a centre around which his intimate friends loved to gather, and it was beautiful to see this old man, always good, always benevolent, and happy in the affection testified to him. His conversations had the charm which so eminently belonged to those of Socrates. In his reünions he occupied himself above all, in the things which were of interest to those he loved. His beautiful soul sometimes rose to higher themes. In contemplating the marvels of nature and the harmony of the universe, it was impossible for him not to recognize God in the grandeur of his works, and he could not admit that the Creator had left to man but a bitter deception, when he implanted in the mind of all people, from all time, the deep conviction of the immortality of the soul.

This existence lasted thus for eighteen years, divided between the sweet pleasures of study and of friendship. It has been said that destiny retarded for Louis its usual laws in the desire to leave a little while longer this most perfect model of an honest man. But all things here below must have an end.

The 9th of June was for Louis a fatal day. He had been irremediably stricken with an illness which terminated after seventy days of sufferings most heroically borne. At the first news of his illness his friends gathered around him, and during these long days of sadness, it was a touching spectacle to see them around his bed, adding their care to the devoted assistance of a faithful servant, and sustaining with their sympathy the holy solicitude of the noble companion of his life. With what effusion of the heart he expressed to all his affectionate thanks; and when his failing strength no longer permitted him

to speak, a pressure of the hand would testify that he still was conscious.

Ah! if ardent wishes could have retarded the fatal end, Louis would still have lived. But his hour was come; he saw the approach of death without fear, having no other regret than that of leaving those he loved. Like the ancient sage, he died rich in friends and covered with proofs of the most lively affection. His departure leaves a large void in the corporation which he served and rendered illustrious; and those students which have had the happiness of being admitted into his intimacy, remain as orphans who have lost the best of fathers.

M. Louis was physician of the hospitals and member of the Academy. There his ambition ended. It is sad that the Faculty had not made him one of themselves. He would have been a grand example for his colleagues, as well as for his students.

This simple man, modest and preëminently good, and on whom adverse criticism has never been able to rest, has passed from among us. But if he is no longer here in person, his noble image will survive in the hearts of his friends; his memory will remain dear to his colleagues of the Academy, and the beautiful name of Louis will leave in the history of medicine imperishable remembrances.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

Waco, October 7, 1872.

Dr. E. S. Gaillard:

Dear Sir,—Is it in accordance with the ethics of the Profession to publish a card to practice a specialty, and at the same time continue in general practice? and is it in accordance with same to publish a card to practice a specialty by one member of a firm, the other continuing in general practice?

Have goodness to forward opinion, with such authorities as may be easily accessible to you, at once, and oblige,

Your ob't serv't, D. R. WALLACE, M. D.

NOTE.—The brief answer is—no.—ED.

HUMBOLDT, KANSAS, Oct. 16th, 1872.

Dr. E. S. Gaillard:

Dear Sir,—On Monday, the 7th instant, James P. Duncan, a farmer, living four miles northwest of this place, while driving a mowing machine, was thrown from his seat, and fell on the sickle-bar. Before he could be extricated his left forearm was almost entirely severed just below the elbow; the left leg was terribly lacerated from the knee to the heel, the gastracnemius muscle being cut away almost entirely from its origin to its insertion. He also received two deep punctured wounds in the thigh of the same leg. I was called to attend him, and found him in the field where the accident occurred, where he had been lying for nearly two hours. Had him taken to his house, nearly half a mile distant. I decided to amputate the arm close to the elbow, and try and save the leg. As he was very much exhausted from the loss of blood and nervous shock, I gave him an ounce of whiskey just before administering the chloroform. Having but a small quantity of chloroform in my case, I gave him a hypodermic injection of morphia (half a grain). I got through the operation in good time, with a loss of not more than two ounces of blood. He rallied from the influence of the chloroform with no bad effects, except vomiting, he having eaten a hearty dinner just previous to the accident. I washed and dressed the wounds on the leg, removing all coăgula and foreign substances (grass, dirt, etc.); and giving him half a grain of morphine, left him for the night. Saw him early next morning; had rested well through the night; temperature, 102; pulse, 120. All bleeding having stopped, I dressed the stump with stitches and adhesive strips, and a folded napkin over it, with orders to keep it constantly wet with cold water. Had to draw off urine with the catheter;

rested well all day. Saw him again on the morning of the 7th; had not rested so well during the night, but wounds all looked well; left him some morphine powders. Ordered beef tea with a little brandy. Pulse and temperature about the same. Still unable to void his urine; complained of nothing but a feeling of weakness. Was sent for in great haste about 3 P. M.; found him with high fever (105), quick pulse (140), with thighs flexed on abdomen, rapid breathing, anxious countenance, and suffering a perfect agony of pain. Abdomen slightly tympanitic and intolerant of the slightest pressure, I saw at a glance that I had a pretty severe case of peritonitis to deal with, and acted accordingly. I gave *two* grains of opium, and repeated the dose *every fifteen minutes*, watching closely until he had taken *fifteen doses*. There was not the slightest effect until he had taken the last dose, when he began to feel some relief. I then stopped the medicine and applied hot fomentations to the abdomen. He slept nearly two hours, when he awoke entirely free from pain; pulse, 90; temperature, 100; and breathing about natural. There was a little soreness for two or three days over the abdomen. The next day I put him on iron, quinine, beef tea, and brandy, since which time he has been improving rapidly, the wounds all healing nicely; appetite good; voided urine naturally this morning, the 16th, for the first time; bowels were constipated first three days, there were then five copious evacuations; have been regular since.

I had but one assistant, Mr. J. W. Thomas, a drug clerk of this place, who administered the chloroform.

Respectfully your friend,

W. M. Dunn, M. D.

Almost Instantaneous Death from Carbolic Acid.

Macon, Miss., Nov. 5, 1872.

Dr. E. S. Gaillard:

Dear Sir,—Last Saturday Dr. R. S. C. Foster, one of the oldest practitioners of medicine in this county, left town about dark in company with a friend, having a flask of whiskey in

one pocket and a bottle of Calvert's liquid carbolic acid, No. 5, in the other. After riding two miles, and being cold, he proposed to take a drink of the whiskey, and took out of his pocket the carbolic acid, withdrew the stopper with his knife—remarking that he had certainly broken the bottle of acid, as he smelled the odor—and after offering his friend some, who refused, took a large swallow. He immediately exclaimed, "I have swallowed carbolic through mistake, and it will kill me; take me to a house." He then jumped from his horse, ran his finger down his throat, and tried to vomit, but could not. He hurried to a negro cabin, about one hundred and fifty yards distant, and fell in the door. The woman of the house dragged him in and laid him on the floor, and gave him mustard at once, as he had called for it on entering. His companion soon came up, when Foster remarked to him, "I am a dead man, but go for Hill right off."

I reached the place in less than an hour afterwards, but found him dead. The woman stated that he died in ten or fifteen minutes after entering her house, almost without a struggle, and with remarkable calmness. He was lying on the floor with a chair and pillow under his head; countenance seemed placid and natural, and extremities warm. His lips, tongue, fauces, in fact, as far down the throat as I could see, were covered with the peculiar white eschar, corrugated, and emitted a distinct odor of carbolic acid. I looked at the bottle, and found that about one ounce was gone; some he spat out on his clothes; but I suppose he swallowed at least a half ounce. They gave him a quantity of mustard and lobelia, but of course it produced no emesis. So profound and terrible an impression upon such an extensive peripheral surface seemed to produce sudden and fatal sedation of the nerve centres; therefore, he must have died without much suffering. He was perfectly sober at the time, and was a man much above mediocrity in intellectual ability. The mistake was made by the two bottles being about the same size, and shaped alike.

Very respectfully, S. V. D. Hill, M. D.

LOUISVILLE, KY., November 10, 1872.

Dr. E. S. Gaillard:

Dear Sir,—It is conclusive to my mind (having tested the matter thoroughly during the last two months) that glycerine will destroy the virtue of vaccine virus. If it will, or has the power to destroy the virtue of vaccine virus, why will it not destroy the virtue of small-pox virus? I would therefore suggest to the Profession that they use it internally and externally as a remedy for small-pox, and report thereupon. What have you to say upon the subject?

Yours, very truly,

F. H. GIBSON, M. D.

NOTE.—Vaccine virus in glycerine has given good results, very frequently, this season.—ED.

LOUISBURG, N. C., Nov. 12, 1872.

Dr. E. S. Gaillard:

Dear Sir,—I see in your October number a notice of a letter from me, among several others, to Dr. W. A. Mitchell, of Glennville, Alabama, recommending a remedy called the "Williams Remedy," for asthma, in regard to which you will please allow me a word of explanation.

I have an elder brother who has been a great sufferer from asthma for many years, and which had proved intractable to all the usual remedies recommended for that disease until a lady friend of his, hearing of his affliction, wrote to him, recommending the above remedy, and enclosed a package of the medicine in the same mail. He tried it without delay, and found instantaneous relief. He immediately ordered a package from the proprietor, and for about twenty months kept his disease under control by the daily use of it. For the last two or three months, however, it seems to have lost its virtue, only affording temporary relief.

When I saw Dr. Mitchell's letter in your May or June number, I think, my brother was then enjoying the full benefit of the remedy. I read Dr. M.'s letter to him. He seemed a good

deal impressed by his account of his sufferings, and urged me to write to Dr. Mitchell and recommend the remedy to him. I complied with his request, hence the letter you have seen.

It has been used in several other cases in this county with much benefit, as I learn from others. I have never used it in my practice. Who can suggest a remedy for this most distressing affliction? Truly yours,

Wm. R. King, M. D.

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

Louis and his Contemporaries.

The great Master in Medicine, Louis, died in Paris, on the 23d of August, 1872, at the age of 85 years. A friend and one of his former pupils has prepared for the "Journal" the following personal memories of this eminent man and a few of his contemporaries of the Parisian Medical School of forty years ago.

In the "Panthéon des Illustrations Françaises au xix. siécle," published at Paris, 1855, is found the following terse and most modest biography, which Louis allowed to be published with his portrait.*

"Louis (Pierre Charles Alexandre), Honorary Physician of the Hospitals at Paris, Member of the Imperial Academy of Medicine, President for life of the Society for Medical Observation, Officer of the Legion of Honor, was born at Ai (Marne) in 1787.

* Panthéon des Illustrations Françaises au xix. Siecle contenant un portrait une biographie et un autograph de chacun des hommes les plus marquants, dans l'administration, les arts, Parmée, le barreau, le clergé, l'industrie, les lettres, la magistrature, la politique, les sciences, etc., etc. Publié dans la direction de Victor Frond, Paris, imprimeur, 57 rue de Seine, 1865.

"He was destined by his family to the study of the law; but he soon abandoned that profession in order to study medicine.

"Having received the rites of Doctor of Medicine in 1813, he left France in 1814 and went to Russia, where he practiced the profession after having obtained at St. Petersburg a diploma of Doctor in Medicine.

"On his return to Paris, in 1820, medical science, under the influence of the writings and public teaching of Broussais, was in great confusion. Much was in doubt, a painful doubt, and in order to relieve himself from it, he resigned practice, and gave himself up wholly to the observation of patients at the Hospital La Charité. This he did for six consecutive years without other occupation.

"The study of the facts there collected enabled him to publish successively—

"In 1823, a memoir on perforation of the small intestine in acute diseases; a second, on croup in the adult; a third, on the communications between the right and left cavities of the heart ("Archives de Médecine");

"In 1824, two memoirs on the pathological anatomy of the mucous membrane of the stomach; another on pericarditis;

"In 1826, a memoir on abscess of the liver; another on the condition of the spinal marrow in Pott's disease; a third on sudden and unforeseen deaths; a fourth upon slow but anticipated deaths, but which anatomy will not explain; a fifth on the treatment of tænia by the Darbon potion ("Archives de Médecine");

"In 1825, his anatomical researches on phthisis (1 vol. 8vo.), reprinted with many additions in 1843;

"In 1828, researches on the typhoid affection or fever (2 vols. (8vo.), reprinted with many additions in 1841;

"In 1838, the examination of Broussais' examination (in 8vo.);

"In 1835, researches on the effects of venæsection in some inflammatory diseases (8vo.);

"And, finally, in 1837, in the first volume of the 'Mémoires

de la Societé Médicale d'Observation,' a dissertation on the examination of patients, and the study of general facts (pp. 63); a memoir on vesicular emphysema of the lungs (pp. 100), and in the third volume of the same publication his researches on the yellow fever of Gibraltar, where he had been sent in 1828 with Messrs. Chervin and Trousseau, in order to observe the yellow fever as it prevailed at that place (pp. 300).'"

Such is the simple history of Louis's scientific life as given by himself without comment—viz., fifteen memoirs and four ample octavo volumes published between 1823 and 1837. These works, though but little read now, formed an epoch in medicine at the time they were published. They are all founded on analyses of cases recorded without prejudice, but with the greatest accuracy and much detail, by the bedsides of the sick. They form the brightest exponent of the so-called "Numerical System," of which Louis was the father. This system consisted in counting the various items of several cases, whereby we are enabled to state the exact number of cases in which certain symptoms or lesions are observed. It has been the object of ridicule, but, nevertheless, its very enemies have felt its power, at least in certain directions.*

Louis's works on phthisis and typhoid fever were considered, when first published, and are considered now, as far as they go, a collection of laws of these diseases derived, as the astronomer derives his laws, from simple observation and a wide comparison of many such. The "Numerical Method" is virtually now carried out under our more improved means of investigation in which, from the nature of the case, there are fewer observers. We take no one man's assertion of a fact on

* One of the squibs of the day was somewhat of this nature. Louis impressed upon all his students the importance of recording the hereditary tendencies in each case. The story runs, that an over-zealous and not very wise pupil, summoned suddenly to set a broken leg, would do nothing without recording. Accordingly, he took out his note-book and recorded name, age, and the ancestral troubles of the sufferer, and, according to rule, asked, "Were your parents or grandparents, uncles or aunts, liable to broken legs or arms?"

any question of scientific interest, but require that numbers of men should confirm or reject it after numbers of observations made by each. It has had a distinct effect on some of the best writers we have had in England and America during the past thirty years, even when some of them would hardly admit that they were disciples of Louis.

But the immediate influence of Louis upon several English and American students was very great. They carried home his ideas, and these ideas spread rapidly in England and America.

SOCIETY FOR MEDICAL OBSERVATION AT PARIS.

In 1832 a few students proposed to form a Society for medical observation, and they asked Louis to be their president. They also requested Messrs. Andral and Chomel to allow themselves to be considered as honorary presidents, as they would thereby show their respect for the objects of the Society. All these gentlemen consented. The objects were:

1st. To make all the members of the Society good observers of disease, by requiring each in turn to go through a kind of apprenticeship in the recording of observations, and in submitting such observations to the criticism of every member of the Society.

2d. They hoped to be able to influence the medical mind generally, and bring it to the comprehension of the great value of accurate observation of disease.

3d. They also hoped, either as a Society or as individuals, to publish memoirs which, being in themselves strict deductions from facts, would be real additions to medical science, while at the same time they would present fair examples of the Numerical Method as used by Louis in medicine.

These three objects I believe were attained. Societies for medical observation were also established in London and Boston. It must be admitted that the plan pursued by the parent Society was not likely to persuade the majority of students to join it, even though they might admit the value of accurate observation and the importance of becoming skilled observers.

That plan was to have weekly meetings, at which each member in turn was required to read an observation that had been recorded at the bedside. The members were arranged around a table that occupied three sides of the room, and each person had paper and pen or pencil before him. He was prepared to listen carefully to the reader, and equally prepared to note the most trivial omission or a too inconsiderate deduction made by the reader. Each subsequently criticised the paper from these notes. This was done in the keenest manner. Louis, as President, summed up the results of the meeting by not only criticising the reader, but also his critics' remarks, so far as he deemed them proper or worthy of further remark.

Those who had the privilege of attending those meetings well remember these criticisms, all of which were made in the most gentlemanly manner, and evidently in no captious spirit, but simply with the determination to make as much out of the occasion as could be made towards the clearest elucidation of the subject. No member of the Society ever allowed any *sentimental* delicacy towards a reader to prevent him from noticing anything which he deemed erroneous or wanting in any paper. At the same time there was no petty quibbling, no personal attacks, and all bore good-humoredly any remarks, however severe.

MEMOIRS OF THE SOCIETY OF OBSERVATION AT PARIS.

Since its commencement in 1832, the Society in Paris has published three volumes 8vo. Although some of the subjects investigated may not happen to be those most interesting to young medical minds of the present day, and although the investigations were less perfect than we have now the means of making in these microscopic, spectroscopic, thermometric and chemical times, nevertheless, the treatises, as far as they reach, will always remain as true expressions of the teachings of nature, as far as any of the necessarily imperfect labors of man can be such.

POSITION OF LOUIS IN MEDICAL HISTORY.

Where in the history of medicine shall we place Louis? It

has always seemed to me that we should place him, in his influence on his own and subsequent generations, by the side of John Hunter, Morgagni, and men of that stamp. Not that we could class his intellect with that of John Hunter, although with Morgagni he would be nearly if not quite on a par. But John Hunter, in his far-seeing genius, so much transcended any other man we have had in medicine for centuries, that it would be impossible to rank Louis with him. Nevertheless, these three were not only animated by, but were fairly "possessed," as it were, by the spirit of inquiry into the secrets of nature in medical science. It is the same impulse which urged Faraday, and which has urged all really great and scientific investigators, and which will continue to do so till the end of time. And these three great men of our profession were "possessed" by this spirit in an eminent degree. Louis finely describes it in an autograph which he gave to the editor of the "Panthéon," already alluded to.

At his last interview with one of his pupils, Louis, when giving him his portrait autograph, slowly read over the words as if they were his last parting gift. It runs thus: "There is something rarer than the spirit of discernment, it is the need of truth; that state of the soul which does not allow us to stop in any scientific labors at whatever is only probable, but compels us to continue our researches until we have arrived at evidence."

This principle, underlying as it does the works of Hunter, Morgagni, and Louis, and others of that class of mind, allies them to one another, and has ever made their influence great with their associates, and still greater in a wider field with posterity. Not that the persons who may be so influenced will always recognize the benign power that sways them, but that they will be swayed notwithstanding. That this is true, is evident in the present power of John Hunter; but who of the many who allude to him now read his many works? His powerful mind has indelibly impressed itself on the ages, because it was in its operations consonant with the operations of nature,

which are ever enduring, ever widening. Morgagni, Hunter, and Louis, were all a protest, each in his own day and within his own intellectual limits, against any pretence to unravel the secrets of nature by speculation merely. They all claimed that hard labor on the facts of nature alone bring out the truth.

Andral, Chomel, Louis! What a noble triumvirate! How friendly were these three men; how similar in their undercurrents of thought; how dissimilar in their modes of expressing those thoughts. Andral a professor at the Ecole de Médecine was lecturing on pathology; Chomel gave clinical lectures at La Charité; Louis held his "conferences" at La Pittié. Andral was the rising man. He was rather below the medium size; he had a young and a fine intelligent face; his head was covered with an ample supply of dark hair. The moment he commenced speaking there fell over the vast hall of the Encole de Médecine a silence, which was preserved with the greatest decorum and attention to the very end of the lecture. Whatever subject Andral undertook to speak of, he always viewed it in its widest extent, and really ennobled it in our eyes. His learning seemed illimitable, and he would gather all of it before him to illustrate his theme. He was nevertheless a great dealer in facts, which with his broad generalizations he was wont to classify when inferior men were unable to see their relations. His tendencies were, if I may so speak, centrifugal, as Louis's were centripetal. That is, Andral, while obeying a central impulse to rest on facts, would with his learning and imagination unite these facts from the opposite boundary of medical experience and bind them into one vast whole. All this was done in the most polished language, with an easy, frank delivery, and perfect self-possession. His sonorous voice rang through the amphitheatre, and he kept the attention even of the most frivolous of the students riveted to the subject. He felt entirely at home among them, and he governed them with his word and a nod. He was the demigod of the hour and place.

Next to Andral in this medical triumvirate of the Parisian Medical School of forty years ago, appeared in the eyes of most

students the well beloved and respected Chomel. He reminded me, in his manner to his patients and to his pupils, and by his clear method of lecturing on cases, and his skill in diagnosis, more of the late Dr. James Jackson than of any other man, French, American, or English, I ever saw. He was always the genial, easy-speaking, well-informed, truth-loving teacher and gentleman. His intelligent smile was like a sunbeam to us. Words fell from his lips like the natural and melodious notes of a bird. His eloquent and truthful lectures won all hearts, as much by the grace and kindly manner with which they were delivered, as by the medical learning they showed. His allusions to the laws, laid down by his great friend Louis, won praise from all.

And last but not least of the three comes Louis. He was of tall, compact form, and with features rather severe; grave in manner to those who knew him not, but full of loving tenderness to those to whom he gave his heart. With his patients he had a *brusque* manner and a quick jerking kind of utterance, and often I doubt not appeared rough when propounding his searching questions. His voice lacked the clear tones of Andral, the gentle, winning softness that marked Chomel in his general intercourse with the students. In fact, it has seemed to some that until age and grief had mellowed Louis's whole nature, he lacked toward the multitude that fine delicacy of voice and manner which his two friends possessed in a high degree.

What shall we say of Louis as a lecturer? He was not an easy speaker. He lacked power and grace of delivery. In fact, in order to be able comfortably to follow him, one needed to feel the value of the method he had pursued in his studies, and to have a faith in his love of truth, coupled with a belief that from these two facts the professor would be better able than any mere theorist to reveal to us the laws of disease, so far as they were known. But he was ill at ease in the teacher's chair. He would talk fluently at the bedside of the patient, and give out the brilliant results of his years of patient labor

while in Chomel's ward, but he trembled and was awkward with his notes when lecturing at his, so-called, "conferences." His hands at times shook so much that we felt a sincere pity for him, as in his "numerical" way he laid down his propositions. The consequence of all this was that Louis always had few followers. He was "*dry*," so the students said. He had none of the glowing and delightful manner of Chomel, nor of the eloquence and comprehensive views of Andral, whose simple presence in the vast amphitheatre of the School of Medicine was always the signal for wild enthusiasm on the part of the two or three thousand students collected there to hear him lecture. We found nothing of all this in the simple room at La Pittié where Louis spoke only to a few.

Late in life Louis retired from La Pittié, the scene of his chief labors as a teacher, and had an ample consultation practice. His early hard study and self-denial were having a full pecuniary reward. He had married the sister of the eminent republican refugee, Victor Hugo. She was a most estimable and intelligent lady, who gave that gracefulness to his home which, if he had remained a bachelor, it would perhaps have wanted. They had one son; he was the idol of his parents, and fully worthy of them. He had grown up to be a youth of great promise when the seeds of consumption began to manifest themselves. In vain did the father try to ward off the blow by travel and change of climate. Death early came, and that blow for a time prostrated Louis; but it left no sting of petty complaints behind it. Believing as he did in the government of this world by Almighty goodness as well as power, Louis arose chastened and subdued as regards many things, but with a heart warmer than ever to the advanced learning of his juniors in the profession, and to all the amenities of friendly life. I had met him as a teacher in 1832, '33, and '34. It was my good fortune to meet him twice again—viz., in 1859, and again, for the last time, in 1867. He was then 80 years old, and the beau ideal of a noble old man, perfectly preserved intellectually and physically. He invited me to dine with him at his country

seat at the Bois de Boulogne. There I met his family and a few others in a most friendly, unconventional way. Fauvel, recently returned from his Eastern expedition, which he had undertaken to study cholera, and Woillez, were there. Louis had the same tall, erect form and commanding head as in previous days; the same quick mode of utterance, and merry twinkle of the eye. It was pleasant to see the affectionate manner with which he greeted his friends and kissed the cheek of his fair niece, who with her husband was of the party. Louis was the centre of all, and easily presided over all. In fact, he gently checked the inconsiderate language of one young Imperialist, who felt called upon during the conversation at dinner repeatedly to utter words of dislike, not to say contempt, for all republics, and so pointed was he, on one occasion, toward America, that I felt compelled promptly to reply. Louis came to my assistance with all the seeming vigor of youth, and gently threw oil on the troubled waters. Forty years seemed not to have added a feather's weight to him. His hair was silvered and longer than formerly; but as he talked of modern work in medicine and regretted the going out of the great lights of Chomel, who, we believe, was dead, and of Andral, who was wholly absorbed in other things than medicine, he seemed filled with his old fire, but, superadded to it, and giving a grace and dignity to him which I had never seen before, were the combined influences of age genially borne, and the blessed memory of a great sorrow. Truly, whether we consider Louis as a master in medicine or as a man, we find most admirable features. One can hardly over-estimate his many manly traits of character. Such a person does not arise more than once in a century. Thrice happy are they whose good fortune led them to know, to love, and to listen to him.—*Med. and Surg. Jour.*

On the Use of Pepsine Wine in the Artificial Feeding of Infants. By W. J. Cummins, M. D.—It is now many years since I first applied this simple theory to practice in the case of one of my own children, who, when about three or four months old, was reduced to a condition of marasmus by vomiting and diar-

rhœa due to imperfect digestion of cow's milk. I ordered him fifteen to twenty drops of pepsine wine, to be given immediately before or after each meal. Soon after commencing it he began to improve, and by degrees all bad symptoms vanished, and nutrition was quite restored.

The pepsine was continued until he was nearly two years old, and he throve at least as well as if he had been wet-nursed; other treatment, of course, preäided and accompanied the use of pepsine, but it was not until the latter was commenced that improvement took place.

Shortly after, a child born in England, and bottle-fed, was brought over to this country when about six months old; he also was suffering from infantile dyspepsia, and was pining away in a listless, apathetic state, quite indifferent to surrounding objects, and appearing as if he would lapse into idiocy from malnutrition of the nervous centres. I immediately ordered pepsine wine, which produced such beneficial effects, that after it had been continued about twelve months, he had become a bright, intelligent, well-nourished child.

Since then I have never recommended a wet-nurse, and have used pepsine wine largely in dispensary, hospital, and private practice, and have seen many apparently hopeless cases recover under its use.—*Dublin Journal of Medical Science.*

Confession no Proof of Guilt.—The "Lyon Medical," of April 28, 1872, refers to the case of a girl, aged twenty, supposed to be seven months pregnant. After an attack of hæmorrhage, her size seemed to have considerably diminished; and the girl, being closely questioned on the subject, said that, becoming aware of the discharge, she repaired to the closet, where she stayed ten minutes. She added that all had escaped, but that she had not time to look, as she was being called by her mistress. A midwife and the parish surgeon both declared that the girl had been recently confined. She was now again assailed with questions, and told that, for her own sake, she had better make a clean breast of it, as no fœtus had been found in the closet. Perhaps, it was suggested, she had thrown it into

the pigsty. The poor creature at first denied such a thing, but at last confessed that it was so. A search was made, but no child discovered. She was tried for the concealment of birth, on her own confession, and sentenced to six months' imprisonment. The girl had been taken into custody in consideration of her free confession, and she quietly proceeded to the jail. When admitted, it was found that she was far advanced in pregnancy, and soon gave birth to a healthy girl. By the French law she could no longer appeal, as more than ten days had elapsed since the verdict; but the judge, having the power of appealing within two months, did so, and the girl was acquitted.

This case shows that confession, which is looked upon as the clearest proof of guilt, cannot always be relied upon. And what shall we say of the surgeon and the midwife? The examination was probably hurried and incomplete, and the conclusion arrived at on seeing the signs of recent abundant hæmorrhage. This case, even in a simple obstetrical point of view, is full of valuable hints.—*Lancet*, May 18, 1872.

Removing a Foreign Body from the Nose.—Accidently opening an old number of "Ranking's Abstract," I read an article headed, "A Novel Mode of Removing a Foreign Body from the Nose," in which is related the case of a child from whose nose surgeons failed to remove a cherry-stone, and were outdone by the village barber, who administered an emetic, and at the moment when vomiting was about to commence, clapped a handherchief tightly over the mouth of the child. I was reminded of the source from which was obtained a procedure I have invariably instituted in such cases, and never without success. Very many years ago, that best of practitioners, Dr. J. P. Evans (then residing in Arkansas), when on a visit to his native place, Tazewell, Tenn., was called to the country to see a child with a foreign substance in its nostril, which had held its position in spite of efforts for its removal directed by the professional skill of "all the region around." On the way, the Doctor was saluted by an aged negro woman, who asked him if he

was going to see that child. On receiving an affirmative answer, she said: "Put yer finger 'long side the nose, tother side from the thing, and with your own mouf over de child's mouf, blow hard, and its bound to come out." He followed her directions, and occasioned the result as she predicted.—*Atlanta Med. and Surg. Jour.*

Mounting of Red Blood-Corpuscles.—At a recent meeting of the Biological and Microscopical Section of the Academy of Natural Sciences, Philadelphia, Dr. J. G. Richardson remarked that some specimens of human red blood-corpuscles, which he had mounted more than six months ago in a saturated solution of acetate of potash, were still in a good state of preservation, and thought this medium, in his experience, was much more satisfactory than glycerine as a preservative agent.—*Med. and Surg. Jour.*

Worms in Urine and Blood.—It will be remembered that, during his investigations on cholera in India, Dr. T. Lewis discovered the embryo of a round worm in chylous urine, which is figured in his Report in Cholera. Dr. Lewis has since continued this inquiry in Calcutta, and has not only detected these embryos in large numbers in chylous urine in many cases, but has found them in very large numbers in the blood of patients suffering from chyluria. A single drop of blood from the finger has contained as many as nine live worms. And the identity of these blood-worms with those of the urine is, we understand, beyond doubt. Dr. Lewis's observations will be published in the next Report of the Sanitary Officer with the Government of India, and will be looked forward to with great interest.

A specimen of the embryo of the chylous-urine worm has been submitted to Mr. Rusk, who considers it to be some kind of Filaria; and it may not be inappropriate to christen the new entozoon "Filaria sanguinis hominis." It is remarkably like some of the common tank-worms; and the mode of entrance into the body (probably with the water), its growth and in-

crease there, and the effects it produces, are matters of the highest interest, which we hope Dr. Lewis may soon clear up. *Lancet*, August 31, 1872.

Ingrowing Toe-Nail.—Dr. Finsh writes to the "British Medical Journal": "Neither of the cutting operations is at all necessary for the complete and rapid cure of ingrowing toe-nail. If a small, thin, flat piece of silver plate be bent at one edge into a slight, deep groove, and, after the toe has been poulticed twenty-four hours, slipped beneath the edge of the nail, so as to protect the flesh from its pressure, and the rest of the plate bent around the side and front of the toe, being kept in position with a small portion of resin plaster passed around the toe, a speedy and almost painless cure will take place; and the patient, after the first day, has the additional advantage of being able to walk. I have followed this method in numerous cases with uniform success."

Post-Partum Exploits.—At a recent meeting of the Obstetrical Society of Edinburgh, Dr. Keiller observed that he had recently witnessed several instances of extraordinary exploits on the part of women immediately after their confinement, without subsequent suffering. As showing what some women can do without any bad consequences, he stated that the other day a woman was delivered in the Old Assembly Close, no one being with her at the time. After the placenta came away, she put her room in order, and then, placing the child and placenta in a basket, she walked coolly to the Maternity Hospital, within an hour after her confinement, to see if everything was right with her. Dr. Keiller exhibited the fœtus, which was apparently about the seventh month.

In connection with this case, Dr. Woodman, of Exeter, in the "British Medical Journal" of August 31, says:

"A young woman, a small farmer's daughter, came into Exeter by one of the branch lines, to see some friends off to London, and also, I suspect, to make arrangements for her confinement, unknown to her parents. Just as her friends were

leaving, she felt rather poorly, and went upon Northernhay, and thence to the Castle Yard, where she was confined between 10 and 11 A. M., on a seat in a retired part. No one was near, and she appears to have been unconscious for about an hour; when she recovered, she tied the umbilical cord with a piece of tape she had in her pocket, and leaving it behind, took off her jacket, wrapped the child in that, and started off to try to get lodgings. Not having brought much money with her, she was unsuccessful; and, although she managed to get some food, no one would take her in; she, therefore, about 9 P. M., went to the Guildhall, and the police at once sent her in a cab to the work-house, where she arrived a little before 10 P. M., and was at once placed in the lying-in ward and properly attended to.

"Although this woman had walked about, for nine or ten hours, without any attention to herself or child, no bad consequences ensued except bad colds to both."

Repeated Small-Pox.—A woman recently died in Boston of small-pox who had, only twelve weeks previously, recovered from an attack of the same disease. In the first instance, she gave the disease to several others in the family; in the second, it took on the hæmorrhagic form.

Not many months ago a child, not over a year old, died in Boston of a well-authenticated second attack of small-pox.

These cases show that recurrence depends upon individual susceptibility, and not on the length of the interval between the two exposures to contagion. In other words, it is not a "wearing out" of protection that causes the second attack.—*Exchange.*

Six Children at One Birth.—The first authentic case we ("Nashville Journal") have ever heard of was reported last April, at the annual meeting of the Georgia State Medical Association, if we except the one recorded in the "Remarkable Cases in Surgery," 1857; but they all died in the evening of the day of their birth. Dr. George N. Holmes reported that, twenty-eight years ago, in Kentucky, he delivered a poor white

woman of six babes at one birth. The children were perfectly formed, and weighed each two and a half to three and a half pounds. The parents were originally from Maryland. They afterwards moved to Arkansas, and he had heard that two of the children had died.

Inoculation of Tuberculous Matter in the Human Subject.—Messrs. Paraskeva & Zallonis, of Syra, in Greece, have published in the "Gazette Medical de Paris," April 27, 1872, an account of five experiments on rabbits, wherein tuberculous matter, either mixed with the food or inoculated, excited deposits of the same kind in the lungs, thus confirming Villemin's investigations. The authors attempted besides a bolder experiment, and inoculated a fisherman of fifty-five years of age with tuberculous matter on the upper part of the thigh. This man was suffering from gangrene of the great toe, in consequence of obliteration of the femoral artery. He steadily refused amputation, and the authors considered themselves justified in undertaking the experiment. The patient died thirty-seven days after the inoculation, and had never been ill before in his life. Seventeen tubercles in the first stage of development were discovered in the apex of the right lung; two were of the size of split peas, and the others as large as mustard seeds. Two more tubercles were observed in the apex of the left lung. The liver looked healthy, but presented two tubercles on its convex surface, of the size of peas. The authors conclude that they have proved their point, but it should be recollected that, in ordinary autopsies, tubercles are often found when their existence from the history could hardly have been suspected. As for animals, it may always be asked whether we can, in all cases, conclude that the phenomena observed upon them would be the same upon man.—*Lancet*, June 8, 1872.

Erysipelas.—Professor Brocar has lately recommended a fresh plan of treatment, which, according to "L'Abeille Medicale," he has often successfully employed at the commencement of the disease. This plan is to apply a layer of collodion upon

the skin above the part attacked. The layer of collodion, which is to be on sound skin, should be from six to eight centimetres wide, and form a complete circle, separating the healthy skin from that attacked. A slight circular compression is thus produced, and it is rare for the disease to cross this barrier, behind which it speedily fades. The part should be examined once or twice a day, in order at once to repair any fissures, and the collodion should be quite pure, without any oil, which is sometimes added to it.—*The Doctor.*

A very old plan revived.—*Chicago Med. Jour.*

Commerce in Pollen.—A curious trade has sprung up in England on account of the demand for pollen to fructify certain plants. The palm tribe, the Cycadaceæ, and other green-house trees, will flourish without producing stamens, and, for want of pollen, will not fruit. Nothing is more common or simple than to advertise in the "Gardners' Chronicle" for the pollen, for example, of the *Caryota urens* an other tropical plants, and it is received through the post.

Scotch Pearls and Bridges.—It is a popular theory in Scotland, that "the building of bridges diminishes the number of pearls in the rivers." At first sight this seems very much like making Tenterden steeple responsible for the existence of Goodwin Sands; but the naturalist finds a basis of scientific truth in the apparent *non sequitur.* Before the bridges were built, the cattle in fording the streams trod upon the mussels, and the injury done to the shells caused the formation of pearls; but now that the cattle cross by the bridges, the secretion of the pearls is no longer promoted in that way. The peasant could observe the fact, though he could not give the philosophy of it.—*Ex.*

To Prevent Abrasion of the Cheek from Spiral Springs.—When it is necessary to use spiral springs for the first time, much discomfort is often suffered by the patient on account of chafing produced by them. This may be, in a great measure, prevented or relieved by one or the other of the following plans: Either make a solution in chloroform of pink rubber

and paint over the surface of the springs before putting them on the set of teeth, or else obtain some of the very fine and thin elastic rubber tubing which is now made; and, having first passed a broach up the centre of the spring to prevent crippling, draw this tubing over, so that the whole of it is covered except those portions that play against the teeth. In this way these necessary evils may be made tolerable to sensitive mouths by protecting the mucous membrane from their metallic feeling and irritation.—*O. C. in Monthly Review of Dental Surgery.*

Glycogen.—M. Claude Bernard announces that he has recommenced his studies on the evolution of glycogen in the eggs of birds. He recalls to mind that in 1848 he discovered sugar (*glycose*) in the liver of animals; that in 1855 and 1857 he proved that this sugar is derived from a particular source—glycogen—fixed in the hepatic tissue. Finally, in 1859, he again found this glycogen in the placental organs of mammals and in the vitelline membrane of birds. It is at this point that he recommences the research.—*Ex.*

Muscle as a Constituent of Nerve-Tissue.—Tigri has shown the presence of muscular fibres among the nerve-fibres of the cerebro-spinal nerves, and the ganglia of the sympathetic. When an irritation is applied, contraction is caused, and the liquid contents of the nerve-fibres are caused to vibrate, and the motion is conveyed thus centripetally or centrifugally. In reference to these anatomical and physiological peculiarities, he calls the ganglia of the sympatheticus magnus, as well as the large ganglia of the brain, "nerve hearts." He considers that the so-called Remak's nerve-fibres are muscular fibres.—*N. Y. Med. Jour.*

Pulse of Various Animals.—The pulse of our domestic animals, as given by Vatel, in his Veterinary Pathology, is as follows: Horse, from 32 to 38 pulsations per minute; ox or cow, 25 to 42; ass, 48 to 54; sheep, 70 to 79; dog, 90 to 100; cat, 110 to 120; rabbit, 120; guinea pig, 140; duck, 135; hen, 140. *Exchange.*

London has a new industry—namely, the manufacture of cripples. The police have discovered a firm of human fiends that take children of tender age and twist their limbs so that they may be bandy-legged or otherwise deformed, according to the wish of the parents. The object of this is to make the unfortunate infants objects of charity. A regular tariff of prices is demanded. a thorough and complete maiming costing four pounds. The members of the concern and about a dozen employés have been imprisonel.—*Ex.*

A Fountain of Soup.—Liebig's extract of meat, which makes an excellent soup, is hereafter to be supplied to the poor classes of Paris at a mere nominal cost, from regular fountains. A M. Levy announces that he will inaugurate a fountain of soup in his establishment, and, for the first two days, will distribute the same gratis to the public.—*Ex.*

Extraordinary Fecundity.—Dr. Edward Mason reported, at a late meeting of the Elmore Medical and Surgical Society, Wetumpka, Alabama, a case in which "a lady bore seventeen children in nineteen years, twice giving birth to twins, and once producing four children at a birth. The latter died, but all the other thirteen survived."—*Ex.*

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

PRACTICAL LESSONS ON THE NATURE AND TREATMENT OF THE Affections Produced by the Contagious Diseases, with an Account of the Primary and Syphilitic Poison and of its Communicability, with an Appendix on the Recent Report of the Royal Commission on the Contagious Diseases Act, and its Application to the Voluntary Hospital System. By JOHN MORGAN, A. M., M. D., University Dublin, with plain and colored illustrations. D. Appleton & Co., Philadelphia. 1872.

As a general rule, the giving of a title in full is unnecessary,

and, practically, it is neglected, but in this case it is essential that this should be done, to furnish the reader with some fair conception of the scope and objects of this work. It is written by a master; one bringing to his task a thorough literary and professional education, enriched and developed by large experience, practical study, private and hospital practice, and that trained method of exposition springing from ample and prolonged didactic labor. The style and method of the work are excellent. The diction also is excellent, and in conciseness and comprehensiveness, is worthy of all commendation. The engravings, plain and colored, are superior, and give a largely increased value to the volume. The subjects examined are exclusively venereal in character; primary, secondary, and tertiary phenomena, in their varied distribution through the vascular, glandular, cutaneous, and ossific systems. The volume, strange to say, is quite small; not larger in extent than three hundred small octavo pages. A most interesting and valuable portion of it is that in which are discussed the results developed in the Royal Commission Report upon the Contagious Diseases Act. Strong ground is taken and maintained in favor of vigorous methods for licensing, inspecting, and restraining public prostitution. This is as it should be; *salus populi suprema lex.*

ELECTRICITY IN ITS RELATIONS TO PRACTICAL MEDICINE. By Dr. MORITZ MEYER. Second Revised and Corrected American Edition; Translated from the Third German Edition, with Notes and Additions, by W. A. HAMMOND, M. D. New York: D. Appleton & Co. 1872.

As the first addition of this work has already been noticed in this Journal, it is only necessary to direct public attention to the second edition of it. It is a valuable defence of the constant current in its medical and surgical relations and effects its uses in the treatment of tumors, diseases, aneurisms, etc. The demand for the work is increasing, and the American translator has appended valuable descriptions of modern electrical apparatus, with illustrative and descriptive plates. Thos

practically interested in the clinical value and effects of electricity, will find in this work a complete exhibit of all that is specially interesting and valuable in this connection. It is well issued.

A Dictionary of Medical Science, Thoroughly Revised, Greatly Modified, and Augmented. By Robley Dunglison, M. D., LL. D. Philadelphia: Henry C. Lea.

This work needs no notice. Its simple announcement is all that is necessary to direct the attention of the Profession to its increased and acknowledged merits. As the last edition of this historic volume has now been published, all physicians will be anxious to obtain a copy of it. It is published by H. C. Lea in an excellent and creditable manner.

A Biennial Retrospect of Medicine and Surgery and the Allied Sciences. By the New Sydenham Society. Philadelphia: Lindsay & Blakiston.

This valuable octavo of 500 pages contains articles by Drs. Anstie, Holmes, Barnes, Power, Fagge, and Windsor; these distinguished gentlemen writing respectively upon practical medicine, surgery, midwifery, physiology, and medical jurisprudence. The whole volume is one of great practical value. It may be obtained from the American publishers.

Report of the Commissioner of Education for the Year 1872. Government Printing Office: Washington, D. C. 1872.

This octavo of 700 pages is a miracle of statistical labor. The history, facts, representatives, strength, character, etc., etc., of almost every school in the United States are clearly and methodically set forth; in these tables are included the medical, law, theological, commercial, literary schools, etc., etc. In examining the tables in regard to Kentucky, it is found that her schools have no endowments, though the contrary is yearly published by one of the medical schools of this city. Those interested in obtaining a valuable mass of facts in regard to American medical education, in its infinite phases, ramifica-

tions and developments, may be gratified by addressing John Eaton, Jr., Esq., Commissioner of Education, Washington, D. C.

TRANSACTIONS OF THE INDIANA STATE MEDICAL SOCIETY FOR 1872.

This handsome volume has been awaiting notice for some time. It is beautifully issued, and approaches perfection in its mechanical elaborations. It is well filled with excellent papers by many of the prominent physicians of the State, Drs. H. P. Ayres, S. E. Munford, R. E. Houghton, L. J. Woollen, T. C. Van Nuys, J. Thompson, T. M. Stevens, C. E. Wright, N. Field, I. Casselberry, L. D. Waterman, R. Curran, F. A. Seymour, etc., etc. A novel enclosure in the volume is a trade circular from an Evansville Drug House. This trade device is sanctioned and sustained by the Publishing Committee of the Association!!

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA FOR THE YEAR 1872.

This large and recently issued volume has been well prepared. It evinces a satisfactory condition of the Society, ethically, numerically, and professionally. Several of the papers are above the average merit noticeable in the productions offered on such occasions. Among these, there is a really valuable paper on the use of the speculum in the diagnosis and treatment of diseases of the uterus, by Washington Atlee, M. D., of Philadelphia. This is a paper prepared by order of the Society, and to be read at the last meeting; it being the excellent custom of this Society to give especial value to its annual meetings by requiring a member to prepare a paper on Medicine; one on Surgery; and one on Obstetrics; each essayist being required to report progress in the department of medical science represented by him on the occasion; an excellent provision for giving interest and value to each meeting. Dr. Atlee's paper is practical, terse, and valuable. He states that the diseases in which the speculum uteri is of little or no value in diagnosis, are as fol-

lows: Malpositions; malformations; tumors. "In all of these diseases, a well-educated finger is the best instrument for making out a diagnosis." This dictum will be disputed by many. An abstract of this paper will be published hereafter. An excellent feature of this Society is the reading of reports from all county societies to the State Society; improving thus the givers and receivers. There is incorporated in this volume an excellent draft of an act to provide for the registration of births, marriages, and deaths. Societies can copy and adopt it to advantage. There are also in this volume the constitution of the State Society; the by-laws; the code of ethics; list of residents of the Society and the permanent members, with post-office address; lists of the members of the county societies. The volume is excellent, and its arrangements and methods worthy of general adoption.

TRANSACTIONS OF THE KENTUCKY STATE MEDICAL SOCIETY FOR 1872. Hart & Mapother, Printers, Louisville, Ky.

This volume was issued during the past month. It is the smallest volume of Transactions so far issued during the present year. The paper and mechanical execution are good, but inferior in appearance to that observed in most similar volumes recently issued. Kentucky should not allow this to be the case hereafter. The proceedings of the last (Louisville) meeting have already been published in this Journal. The secretary has so curtailed his official report as to make it actually incorrect and incomplete. Several errors of fact also appear in it. The speech of the President contains several typographical errors; it is terse, brief, and to the point, and contains many useful and valuable suggestions. The paper, "Resections of the Long Bones," by Dr. Joseph W. Thompson, of Paducah, Ky., is like all of the papers published from this gentleman; practical, brief, and exceedingly valuable; a real addition, as well as a contribution to medical literature. "The Mineral Waters of Kentucky," by Dr. L. J. Frazee, of Louisville, Ky., is one of the most valuable medical papers recently

issued in this State. It contains a vast amount of useful information, and embodies the result of most efficient and judicious research. Appended to it, there is a very valuable table giving the gaseous and mineral constituents in one gallon of the following waters: Tunbridge (Eng.); Brighton (Eng.); Estill (Ky.); White Sulphur (Va.); Aix La Chapelle (France); Blue Lick (Ky.); Paroquet (Ky.); Saratoga (N. Y.); Selters (Germany); Kissingen (Germany); and the Olympian (Ky.) There are thus presented the analyses of several of the chief chalybeate, sulphur, salt-sulphur, and saline waters interesting to the Profession. This table is instructive and valuable. "The Patella-brace," by Dr. J. M. Clemens, of Louisville, Ky., is a very useful and interesting paper. It will be read with interest and profit by all. The paper is embellished with an illustrative "cut." The whole contribution is most useful and practical. The paper on "Hygiene," by Dr. John D. Jackson, of Danville, Ky., is brief but excellent. In this he recommends legislative action upon the following subjects: A State Board of Health; the registration of births, marriages, and deaths; the creation of a State Board of sanitary inspectors; the appointment of a State chemist; compulsory vaccination; compulsory architectural provisions for the safety of all public lodging-houses, hotels, public buildings, and places of amusement, with efficient sanitary inspection of such places; the passage of a contagious disease act, requiring the careful inspection and licensing of all prostitutes; the forbidding by law the sale of all medicinal compounds, unless their composition be given on the label; the exclusion from the State of peri-patetic quacks; forbidding the practice of medicine in the State, unless those seeking to practice be licensed by a Board of public medical examiners, duly paid and carefully selected (the present graduates of Kentucky medical colleges being exempted from such examination); forbidding medical colleges to grant medical diplomas, this power being placed in the hands of a special Board; forbidding any one to act as a drug clerk, unless he is a graduate in pharmacy; the dissemination of health tracts and the require-

ment of the use of some efficient manual on hygiene in the public schools. Here is abundant material for useful thought and much-needed action. The paper on Phthisis, by Dr. J. J. Speed, of Louisville, Kentucky, is exceedingly well written; the diction is perhaps somewhat too florid and ornate for a medical paper, but it evinces, at the same time, scholarly proficiency and literary elegance in the writer. The paper is a concise exposition of much of the pathology, etiology, and treatment of phthisis. Past and present views are briefly and honestly reviewed, and the paper closes with some very judicious views in regard to the treatment of the disease, and the necessity for all medical warriors keeping their professional shields bright and untarnished; reflecting "nothing but virtue, patience, courage, and all noble dealing." Well may, in this connection, each honest and honorable physician ejaculate the Masonic coöperative prayer, "So mote it be." The paper upon "The Ophthalmoscope," by Dr. D. S. Reynolds, of Louisville, Ky., is brief, but exceedingly well prepared. The principles, the philosophy, the practical use, and the benefits of the ophthalmoscope are briefly and very carefully given. The paper will be read with interest and profit, and will be justly commended. The last paper in the volume is one by Dr. C. H. Spilman, of Harrodsburg, Ky. His subject is the familiar one of "The Defects in our Present System of Medical Education." The author has studied his subject, very evidently, with great care and fidelity. He traces out the changes in public opinion and action, from pre-revolutionary periods to the present day, and presents his analyses and comments in lucid and forcible language. He does more; he is always courteous, considerate and generous in his comments upon past and present evils, while he does not evade full responsibility in his declarations of direct and unmistakable censure. He insists upon the necessity for full preliminary education on the part of the student; Latin is regarded as an essential. If the public do not agree with Dr. Spilman in his reasonings in this connection, they will give him very just praise for his earnestness, honesty, and inge-

nuity. The paper is well prepared, well written, and well presented. The Profession will be profited by a careful study of it. The facts are, however, that nothing has been more clearly demonstrated than that all medical societies are absolutely powerless in the disposition and management of this great subject. No possible legislation can control medical colleges; certainly no legislation upon the part of any medical Bodies now in existence. It is possible that a medical senate, consisting of two medical men from each State, and elected (one every two years) by the medical society of each State, as suggested and explained, editorially, in the June (1872) number of this Journal, may solve this great problem, and force medical colleges to reflect, in their policy, the sentiments of the American Medical Profession; but no Body now in existence can effect aught in this matter. The American Medical Association (consisting partly of prominent physicians and largely of those who are inexperienced and irresponsible, make the annual meetings of the the Association the ridicule of the scientific and secular public) has paltered with and tinkered at this matter for a quarter of a century, and is more impotent to-day in this connection than it was twenty years ago. State societies are too restricted in their jurisdiction to effect anything. It should be placed upon record here also, that the evils in medical education to-day are due to the private practitioners of the country, and not so much to medical colleges. As long as many medical students are so absolutely neglected by their preceptors at home, and are sent to medical colleges, often ignorant of the commonest principles and elements of both a literary and professional education, it is an absolute impossibility for any medical college to convert such students into well-prepared and accomplished physicians. The universities of Germany and France could not do this in seven years; far less can American medical colleges do so in two or three years. No one can expect fine cloth from the best factory, if he sends to it poor wool. The evil is chiefly with the practitioners of the country. If they will be true, honest, and just to those whom they take into

their offices (promising to teach them, and seldom or never having the energy or industry to do so) then they will have the right to cast the stone at the colleges. If, indeed, only those railed at the colleges who discharged their duty to their office-students, how terrible would be the silence; the silence reigning in Coleridge's ship of death would be nothing in comparison. If it were authoritatively said, "He that is without sin among you, let him throw the first stone," what would be the result? Who does not know what it would be? The remainder of the quotation might aptly indicate this; "and they which heard this, being convicted by their own consciences, went out one by one, beginning at the eldest even unto the last." The railers must earn the right to be railers by first becoming self-reformers. When they send good wool, they will have in return good cloth.

It is seldom indeed that any one touches this old subject and handles it with the commendable kindness and courtesy evinced by Dr. Spilman, of Harrodsburg, in his excellent paper. The members of the Society will regret that their volume does not contain the constitution of the Society (a familiarity with which is always needed, and especially when charges are preferred against a member), its by-laws and the code of ethics. These necessary additions should be found in every volume. A large number of the members have failed to record their post-office address, in consequence of which the Publishing Committee are unable to send to these gentlemen their copies of the Transactions. All who do not receive their copies by mail, can obtain them at Paducah, Ky., next April. The committee desire that this should be known, and that all who have not received their copies, should understand that this misfortune is due to the fact, that many members have failed to furnish to the committee the usual and necessary post-office address. The Publishing Committee, Drs. John Goodman, Samuel Brandeis, and T. P. Satterwhite, have made excellent and judicious use of the means at their command.

The next meeting of the State Medical Society takes place at

Paducah, on the 1st of April, 1873. From all that has been reliably learned (and much has been so learned) it will be a large meeting. The physicians in that portion of the State will not fail to use every means for securing a large, earnest, and harmonious meeting. Medical men from all parts of the State are earnestly invited to prepare for this meeting, and, when the time arrives (as Lady Macbeth would say), not to stand upon the order of their going, but to go at once.

TRANSACTIONS OF THE MAINE MEDICAL ASSOCIATION, 1871–'72.

From an old and highly-esteemed correspondent these two handsome volumes have been received. They evince a most active and efficient professional and ethical spirit upon the part of the Profession in Maine. The proceedings have been harmonious, practical, and highly useful. The papers published have, many of them, a high order of merit. It seems that, in the whole State of Maine, there is not yet a General Hospital. Such a fact is wonderful indeed. It is a stigma which the physicians of that State should, by personal exertions and pecuniary aid, be swift to remove. They know best the need of one, and they best can induce the building of one. True, there is promise of one, but "oft-expectation fails, and most oft, where it most promises." The hospital now in a state of incubation will be, when it is finished, an ornament and a source of pride to the State. The physicians of Maine should see that it is promptly and perfectly completed.

CHEMICAL AND PHARMACEUTICAL.

"Diruit, ædificat, mutat."—HOR.

The Fever Tree.—Dr. Pedro L. N. Chernovis, of Bahia, in a late number of the "Gazeta Medica da Bahia," gives a very interesting account of the history, uses, propagation, medical, and

miscellaneous properties of the *Eucalyptus Globulus*, an immense tree introduced into various provinces of Brazil from Australia, and called, as in Spain, *arvore da febre*, from its "marvellous results in the treatment of intermittent fevers." The tree is colossal, sometimes attaining a height of 300 feet, and a diameter of 30 feet; ranging often from 50 to 70 feet in height and 10 to 20 feet in diameter. All parts are aromatic, less so in the trunk and bark, more so in the small roots, flowers, and leaves. It is a comparatively new medicine of much promise, and is given internally for intermittent fever, in doses of from one to four drachms of the powdered leaves—twice during the intermissions—or in infusion (two drachms in four ounces of boiling water), morning and evening. Aqueous and alcoholic extracts, in doses from two to eight grains, are also used for the same disease. One or two drops of its essential oil, on sugar, in pill or capsule, are advised in bronchial and pulmonary affections, laryngitis, and catarrhal aphonia.

Beware of Green Wall Papers.—A physician in Western Massachusetts recently had a lady patient who, for several weeks, had been suffering from nausea, general prostration, and other symptoms of slow poisoning. Failing to discover the cause of the symptoms, says the "Hartford Courant," as a last resort the Doctor requested her to move from her chamber, the walls of which were covered with paper of a very light shade of green, so light, indeed, that in the evening it could scarcely be distinguished from white. After leaving the room the symptoms immediately disappeared, and the patient rapidly recovered. A sample of the paper was forwarded for analysis to the State chemist at Hartford (Mr. Joseph Hall, of the High School), and was found to contain a large quantity of arsenic. Mr. Hall obtained the poison in the various forms of metallic arsenic, yellow tersulphite, silver arsenite, and arsenious acid or common white arsenic. He estimates that every square foot of this innocent-looking paper contained an amount of the poison equivalent to five grains of arsenious acid, or double the fatal dose for an adult person. This, in the moist warm weather of last

July and August, was amply sufficient to keep the air of a room constantly impregnated with the poison, and any person occupying such a room would be as certainly poisoned as though the arsenic had been taken into the stomach.

Dugong Oil.—Attention ("British Medical Journal") has been recalled, by the contents of the Queensland Annexe at the International Exhibition, to the medical uses of dugong oil. It has been declared by more than one medical practitioner, following Dr. Holt, of Brisbane, to possess all the nutritive properties of cod-liver oil, and to be equally useful in all forms of tuberculous and wasting diseases which are benefited by the administration of cod oil; it is alleged to possess an actually agreeable flavor, to be pleasant as an article of food, and to be acceptable to those whose stomachs reject cod oil. At a recent dinner in the Annexe, the pastry was made with dugong-oil, and was pronounced to be excellent.

The Bile Pigments.—By the action of sodium amalgam on an alkaline solution of bilirubin, out of contact with air, Maly ("Ann. Chem. Pharm.," clxi., 368) has obtained a yellow coloring matter of feebly acid character, which he names *hydrobilirubin*, and believes to be identical with the coloring matter obtained by Scherer from urine, with that obtained from fæces by Vanlair and Masius, and also with Jaffe's *uro-bilin*. He assigns to it, in a later paper, the formula $C_{32}H_{40}N_4O_7$ (new notation). This direct conversion of bile pigment into urine pigment is highly interesting.—*Lancet*, Sept. 7, 1872.

Lime for Poisoning by Plants and Insects.—A standing antidote for poison by oak, ivy, etc., is to take a handful of quicklime, dissolve in water, let it stand half an hour, then paint the poisoned parts with it. Three or four applications will never fail to cure the most aggravated cases. Poison from bees, hornets, spider bites, etc., is instantly arrested by the application of equal parts of common salt and bicarbonate of soda, well rubbed in on the place bitten or stung.—*Exchange.*

Blissful Ignorance.—The King of Dahomey recently attended a public dinner, gorgeously arrayed in a suit made up of druggists' labels.

MEDICAL NEWS.

'Nulla dies sine linea."

A New Species of Sucker.—Dr. Joseph R. Beck, of Fort Wayne, Ind., publishes in the "St. Louis Medical and Surgical Journal," his great discovery as to the method by which the spermatozoa enter the uterus. He has been experimenting upon two cases of nymphomania, with his finger; inducing the venereal orgasm, by sweeping his index finger across the os uteri. When this is done, he says the internal os opens for more than an inch, and "sucks in" the external os. He repudiates thus the explanations of Köelliker, Sims, Montgomery, etc., and seeks the glory of an independent investigator. It is but natural that a citizen of Indiana should offer to the world a new species of "sucker," but like many other suckers from that State, it will be ridiculed and repudiated. The editor of the "New York Medical Record" writes an editorial upon this subject. He considers that Dr. Beck has been naughty, and should not have indulged in such queer gynæcological investigations. The editor of the "Record" it seems, does not think that science, in his relations to it, should be always catholic; that now and then, on proper occasions, it should be loudly protestant.——— The "Philadelphia Medical Times," published by J. B. Lippincott & Co., after a prosperous career as a Semi-Monthly, has been converted into a Weekly Medical Journal. Its publishers and editors have the best wishes of this Journal. They deserve success, and will no doubt receive this fully and promptly. Their Journal is worthy of all commendation.———*Something New under the Sun.*—In times past the genitalia of the human

female were studied in the class-rooms of medical colleges either on the subject, or by charts, models, and drawings. In the Ohio Medical College, at Cincinnati, there is a spirit of progress in this direction. The female organs are now studied by bringing the patient, living and it seems nothing loth, before the whole class; the parts to be scrutinized being entirely uncovered. It is the latest development of the woman movement and woman's rights.———The Obstetrical Society of London has appointed a committee to form a collection of pelves, illustrative of various points in connection with obstetrics. The honorable secretaries to the Pelvis Committee state that they will be willing, if desired, to make arrangements as to expense of carriage, casts, models, drawings, photographs, etc., with any society or gentleman in this country who may wish to contribute specimens. Their address is at the Society's Library, No. 29, Regent Street, W.——*Exchange.*——— A new medical periodical, the "Journal of the College of Physicians and Surgeons of Baltimore," has been recently established. It is welcomed to the exchange list, and has the best wishes of this Journal. Its editor must read his proof, however, more carefully, or he will startle some of his readers beyond recovery. He announced, recently, that Dr. Stokes had been made, by the Queen, a Barouche. His friends in this country were furiously indignant, until they heard that Her Majesty, with such noble material, had added to her nobility, by making Stokes a Baronet.——— *Under the Caption of News*, almost all the Journals are publishing that Mrs. Bradice, of Ohio, had just given birth to eight children. They are the victims of a cruel hoax. It is a newspaper jest, and after becoming too well known for newspaper editors to be deceived by it, medical editors, it appears, have just discovered it. It seems a pity that the statement should not be true. It would have been an excusable pun subsequently, for the children, when accused of disordering a room, to say that they had inherited, from their mother, the vice of littering.———The "Georgia Medical Companion," it is said, has become so respectable that

the word Georgia is to be dropped from its title; a compliment, of course, to the Georgians! If this is not done, the editor asks the public to suggest a name for his bantling. The best name for it would, manifestly, be "The Medical Rattoon." The term rattoon is applied to the growth succeeding the successful cultivation and *removal of sugar*. It is alleged that Dr. Powell has harvested sugar largely, and that he removed it with distinguished skill.———*The Boston Fire.*—Harvard University lost nearly $500,000 by the late fire. She has applied to the city for $250,000 for repairing damages in part, and for $50,000 for immediate use. The "Boston Medical and Surgical Journal" was not injured. The "Boston Journal of Chemistry" and the "Journal of Applied Chemistry" suffered very severely. They will please accept kind remembrances and earnest sympathy.———*Midwifery in Russia.*—It is stated that the Emperor of Russia has just issued a ukase ordering the immediate establishment at St. Petersburg of a school to train midwives, as up to the present time no such institution has existed anywhere in that immense empire. The curious part of the matter, however, is that the direction of this school is placed in the hands of the Minister of War, who, under date of the 10th of August, published the regulations of the Institution and the programme of the studies. This anomaly results from the fact that the new school is subordinate to the Academy of Medicine and Surgery at St. Petersburg, which is also under control of the War Department.—*Ex.*——*The Last Device to Secure Concealment.*—The editor of the little "Georgia Medical Companion" is, it is said, to sue this Journal for libel. Why threaten this? Why not do it? It will be so profitable, and so brave!! The sooner it is done, the better. As Maturin said to the Archbishop of Dublin, "the quiver is full, and each arrow shall reach its mark."———*The Plague in Persia.*—The pestilence which has been raging in Persia for two years past, is said to be the true Oriental Plague, marked by high fever, cerebral symptoms, buboes on the neck, in the arm-pits and groins, petechial spots, purpura,

carbuncles, etc. The mortality averages fifty per cent., death occurring in from three to eight days. Whole villages have literally been depopulated. In cold weather it disappears.——— *Agassiz.*—Prof. Agassiz has been elected one of the eight foreign associate members of the French Academy of Sciences, to fill the vacancy caused by the death of Sir Roderick Murchison.———The Medical Library of the late Professor Robley Dunglison, of Philadelphia, embracing a great variety of works in every department of medical literature, is in the hands of auctioneers, and will be sold at an early day.———Professor Bentley, of the Medical College of the Pacific, has supplied his dissecting-room with glass tables. Each table consists of a single slab of glass, three-fourths of an inch in thickness, two feet four inches in width, by seven feet in length. They possess all the properties of neatness, durability, and even of elegance.———*Poisoning by Vanilla.*—A physician in Worcester county, Mass., ("Boston Medical and Surgical Journal," Aug. 1, 1871,) in speaking of cases of poisoning by vanilla flavoring, stated that in his own family evident and violent poisoning from a similar cause recently took place. Five members of the family were affected, all of whom had partaken of custard flavored with vanilla, while two who had not eaten escaped. The symptoms were severe diarrhœa, with violent pain in the lower abdomen, without much gastric disturbance.———*Medical Rank in the Navy.*—The "Naval Register," recently published, gives the following numbers and rank of the Medical Staff: 15 Medical Directors, with the relative rank of Captain; 15 Medical Directors, with the relative rank of Commander; 50 Surgeons, with the relative rank of Lieutenant-Commander; 25 Passed Assistant Surgeons, with the relative rank of Lieutenant; and 52 Assistant Surgeons, with the relative rank of Master.———Dr. R. Angus Smith says that the air of houses should not contain carbonic acid enough to give a precipitate when a ten-ounce bottleful is shaken with half an ounce of clear lime-water.—*Philad. Med. Times.*———The retirement of Dr. J. M. Foltz, late Chief of Bureau of Medicine and Sur-

gery, U. S. Navy, has placed Dr. J. C. Palmer in that position. *Ibid.*———*A Centenarian Physician.*—Dr. Francis Hay, of Columbus, Ohio, recently celebrated his one hundredth birthday. The Doctor is a native of Bavaria, having been born in Wurzburg, December 1, 1771. He was a student at that place, and there acquired his profession. In 1834 he came to America and practiced his profession successfully in various parts of this country, and in 1810 went to Columbus, where he has resided ever since. His wife, to whom he was married in 1802, is now in her 95th year, is quite nimble and healthy, and bids fair to survive a number of years. The Doctor himself is wonderfully lithe and strong for one so old. He is frequently seen upon the streets walking with a firm and steady step, and as upright in his carriage as a man in the prime of life. He is perfectly able to help himself, and in the care of his person asks no assistance from any one.—*Phila. Med. and Surg. Reporter.*

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

NORMAL OVARIOTOMY.—The operation of normal ovariotomy, as reported in this Journal, was certainly (as claimed by the operator) original and unique. It is to be regretted that he did not publish the opinions and advice of Drs. Eve, Gross, Storer, etc., in this connection. These gentlemen surely could not have committed the blunder of supposing that the operation of ovariotomy, of even double ovariotomy, destroys the monthly molimen, the monthly discharge of blood, or the neurotic disturbances incident to and accompanying the menstrual period. If double ovariotomy does not prevent these phenomena, it is difficult to understand how any one could subject a woman to this recent operation, upon the assumption that it would necessarily shield her from the sufferings attendant upon

her menstrual periods. Drs. A. Reeves Jackson, of Chicago; W. L. Atlee, of Philadelphia; and H. Storer, of Boston, have each published cases, according to the records, of which it is well shown, that after the operation of double ovariotomy, the neurotic and vascular phenomena of menstruation regularly returned for years; in some cases, until the change of life. Köeberle reports a case in which menstruation regularly recurred after double ovariotomy with the loss even of a large portion of the uterus. Dr. Battey's patient may be relieved of her sufferings, but medical literature does not furnish such testimony as to make the operation of double ovariotomy warranted upon the assumption that after it the neurotic and vascular phenomena of menstruation would thereby be prevented.

THE MASK TORN OFF.—Moore, in his Veiled Prophet, represents one, who so long as there was concealment of the actual man, was accepted as the embodiment of attraction; but that when the mask was removed, those who looked, shrieked and fell. History repeats itself. The mask unremoved masks many a villain, but when force or accident removes it, then society shrieks, and condemns him to a moral or physical incarceration.

In the September Journal, evidence was given that a certain Dr. Thos. S. Powell, of Atlanta, Ga., the editor of the "Georgia Medical Companion," had fraudulently claimed to have been made an Emeritus Professor, (chair not stated) in the Atlanta Medical College. The Faculty by letter denied the fact; repudiated the man; and demonstrated, that instead of having honored, they had publicly expelled him from their Institution. Their declarations being published, Dr. Powell obtained a few certificates, stating that he had been honored as claimed. Wishing to do him justice, the inquiry has of course been made. What is the result? The President of the Board of Trustees, Dr. Joseph Thompson, Judges Whittaker and Eggard, all Trustees also, deny all knowledge of the official document represented by Dr. Powell to have been received and acted upon by them. Their letters are now before the writer. Dr. A. Means, in a long letter, says, as a clergyman, he will not

deny having written what he is represented to have written, but that he has no recollection whatever of having done what is claimed by Dr. Powell he did do—viz., the writing of an official statement that Dr. Powell had been made an Emeritus Professor. The Faculty deny having ever proposed to do this; there is no record of any such proposition; their chairman, Dr. Means, has no recollection of it; the President of the Board of Trustees and his associates have no remembrance of ever having seen or read any official communication upon this subject. The paper claimed by unfortunate Dr. Powell to have been executed, has, as he admits, neither stated locality nor date upon it, and, now that it is wanted, *has been lost!* A probable story, truly. Such subterfuges, legerdemain, and chicanery, can be treated only in one way. It is to banish the representative of them from further notice or thought; to consign him, as an unfortunate man, to professional, social and moral coventry. "So much for Buckingham!"

THE EPIZOÖTIC.—Is this the proper name? If not, there is a long catalogue of names from which to select; epizoötic, epihippic, hippo-zoötic, hippo-pleuritis, hippo-catarrh, etc. Be the name what it may, the disease has attracted or enforced attention. Some regard it, and very properly, as a species of influenza, due to atmospheric causes; most probably to ozone in excess. This gives influenza to the human being; generally as some claim; always, as claimed by Schönbein and the leading observers of ozonic fluctuations. The human being has largely suffered in the respiratory passages during the prevalence of the horse disease, and these results are most probably due to the same cause. The disease has not prevailed as often with horses as it has with the human family, but it is certainly not a new complaint among horses; the extent and rapidity of its prevalence among them has this year been rare indeed, but in other respects there is nothing worthy of note. A few old women in breeches in the Profession attribute the present horse disease to local influences; the word local meaning, this year, an area from Canada to Alabama. As the deer of Mich-

igan have suffered seriously, it is difficult to imagine what such hygienic maniacs will assign as the cause. The hygienic surroundings of the deer must be bad, and in need of an active policing!! The pathology of this epidemic is nothing other than an inflammation of the mucous tissue of the respiratory passages; confined in mild cases to the Schneiderian membrane; extending sometimes to the trachea, primary bronchial tubes, and capillary bronchial tubes; and, at times, invading the pulmonary alveoli, and even the pleuræ. That too early exposure should have developed pleuritis, and that this should have extended to its second stage, resulting in effusion, causing the horses to die of "dropsy," is but natural. Where horses have, previously to the disease, been badly fed, overworked, and kept in foul stables, they have had, during or after their attack of the epizoötic, a serous infiltration of the cellular tissue; a species of general anasarca. This sequel to the disease is not, however, one of its symptoms, nor can it be regarded as belonging necessarily to its pathology. The most remarkable phenomenon during the epidemic has been that sensible people have lost their senses, and instead of allowing their horses to "get over their cold," just as they would do, by the use of sufficient clothing, careful diet, and the avoidance of exposure, they have treated their poor beasts in the most absurd and brutal manner; smoking them; drenching them with petroleum; atomizing them; purging them; policing the nostrils with swabs reeking with medicinal abominations, etc. The most rapid cures have been (and will always be) where the horse is well groomed, blanketed, dieted, protected from exposure, and accorded ample rest.

EDITORIAL BREVITIES.

Several Journals have commented upon the plan suggested by the "Medical Record" (as they seem to think) for the reörganizing of the American Medical Association, by establishing a Medical Senate, composed of two members from each State, and elected by the State medical societies for two or more years, etc., etc. The paper in the "Record" appeared very recently,

while the whole matter was presented in the issue of the "Richmond and Louisville Medical Journal" for June, 1872. It does not affect the result and the legislation, of course, whether the "Record" or this Journal first advocated these views; still it is natural that a Journal should claim justice in this connection. It does not matter much whether any one affixes the door-plate of your neighbor or friend to your house door, but it is to be expected when a little mistake of this kind occurs, that one may pleasantly remove his friend's name and affix his own; that is, if the neighbor did not precede him in his act, and affix his name where it properly belonged.———*Boston.*—No one, however busy, is too busy not to think of this classic old city, recently draped in the terrible folds of insatiable flame; its proudest architectural monuments, like those who first planned them, returned to dust; its prosperous marts deserted; its vast capital fatally threatened; its commerce crippled; its looms all silent; its educational institutions smitten with comparative poverty; its press robbed of so many of its best representatives; and its people, but recently recovered from terror, sitting, sad and sorrow-stricken, but with brave and undaunted hearts, amid the desolation and ruins which surround them. All generous minds feel for Boston and for the disasters which have overtaken her people. Among so many others at the South, this publication now tenders them true and earnest sympathy.———*Remarkable if True.*—A dozen medical journals, some of them very small in size and circulation, are claiming that they offer "unequaled advantages for advertising." Many other journals claim, as a great merit, that their "selected matter is from original copies"; as though coin were less valuable because it had passed through many hands.

Close of Volume Fourteen.—Seven years ago, the writer was, at this period of the year, preparing to issue the first number of volume one. His friends earnestly advised him to abandon such a purpose, and one thought it even reckless to have a few printed receipts prepared for the occasion. Since that time, the Journal has been increased to exactly one-half

more than its original size; and the circulation, from a few hundred, to the latter half of the second thousand. The work has passed through many severe and terrible ordeals. For years it struggled, as none can ever know, for an independent existence. It reached that degree of success several years ago, and has since that time been (humanly speaking) not only beyond the chances of failure, but has been a source of constant pleasure, and a very material source of profit. It has endeavored to advocate the truth and the right; to uphold the character and honor of the Profession; to sustain all true men, true institutions, and true works; to strengthen all representatives of real progress; to expose the trickster and the charlatan; to aid, so far as it was possible, the upright and meritorious; and to defend and vindicate the traduced and unfortunate. How it has succeeded in these efforts, all others are better able than the writer to determine. Material success, he is aware, is not true success, and while the business of the Journal was never so satisfactory, it may be that the editorial management is not, in the judgment of the impartial, equally fortunate. He can only hope that if it is not so, it may become so, and that the course of the work, like its business, may daily increase in the respect and confidence of its supporters. Every effort will be made to improve the Journal in all of its departments, and to make it, in part at least, worthy of the noble interest manifested in it by so many true, generous, and noble men.

Another year will soon be here; another volume will soon be commenced; the occasion is used for making this brief personal statement, and, with the best wishes of the season, for reminding the many friends of the Journal that the best period possible for aiding it and working for it, is that which is now upon all; THE CLOSE OF THE YEAR.

WANTED—Journals for July, 1866; October, 1867; January, 1872; June, 1872; and October, 1872. For each copy of these Journals sent there will be returned fifty cents.

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